

DOCUMENT RESUME

ED 219 999

HE 015 342

TITLE The Statewide Plan for Higher Education, State of New Jersey Board of Higher Education.

INSTITUTION New Jersey State Board of Higher Education, Trenton.

PUB DATE 81

NOTE 212p.

AVAILABLE FROM State of New Jersey Board of Higher Education, 225 West State St., Trenton, NJ 08625.

EDRS PRICE MF01/PC09 Plus Postage.

DESCRIPTORS *Access to Education; Ancillary School Services; Basic Skills; College Admission; College Faculty; College Libraries; *College Planning; College Role; Educational Change; Educational Finance; Educational Objectives; *Educational Quality; *Enrollment Projections; Financial Support; Futures (of Society); Government School Relationship; Graduate Study; *Higher Education; Private Colleges; Professional Education; State Aid; State Colleges; *Statewide Planning; Undergraduate Study

IDENTIFIERS Institutional Mission; *New Jersey

ABSTRACT

The 1981 statewide plan for higher education in New Jersey is presented. The following challenges for the future are briefly addressed: education in a technological society, liberal education for social change, the size and composition of the college population, public priorities and fiscal resources, the role of government, the Board and Department of Higher Education, the chancellor, institutional quality, affirmative action, international education, research, and cultural responsibilities. Policy for the decade ahead is considered in relation to opportunities for higher education, quality of educational programs, research and advancement of knowledge, and management and accountability. The role and mission of specific institutions of higher education and of each sector are considered. Enrollment goals and projections are specified regarding undergraduate enrollment goals, the proportion of high school graduates going to college, the role of out-of-state students, the retention of students, and the enrollment of transfer students and older students. Admission policies for the 1980s are considered in respect to increasing access, matching student needs with institutional strengths, and increasing access to transfer students. Academic program quality concerns, quality and development of the faculty, basic skills testing and programs, bilingual education, institutional resources, and student services and facilities are addressed. Issues pertaining to financing higher education in the 1980s and specific programs, including vocational and cooperative education, and health professions education are also covered. Minimum requirements for degrees and the methodology for projecting enrollments are described in appendices. (SW)

ED219999



U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

✓ This document has been reproduced as
received from the person or organization
originating it.
Minor changes have been made to improve
reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

D. J. Board
of H. E.

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

The Statewide Plan for Higher Education

State of New Jersey
Board of Higher Education

1981

HE 015 342

STATE OF NEW JERSEY

BRENDAN T. BYRNE, GOVERNOR

Board of Higher Education

Mr. Edward E. Barr, Chairman
Milton A. Buck, Esq., Vice Chairman
Dr. William O. Baker
Mr. Gabriel Danch
Dr. Charles W. Daves
Hugh E. DeFazio, Jr., Esq.
Rabbi Martin Freedman
Thomas H. Gassert, Esq.
Rabbi Harry B. Kellman
Mrs. Katherine K. Neuberger
Mr. Donald A. Peterson
Dr. Jerome M. Pollack
Dr. Norman Reitman
Mr. P. Paul Ricci
Mr. Sydney G. Stevens
Dr. Deborah P. Wolfe

Englewood
Newark
Morristown
Haddonfield
Lawrenceville
Dover
Wayne
Colts Neck
Cherry Hill
Lincroft
Short Hills
Teaneck
Highland Park
Vineland
Princeton
Cranford

Ex Officio

Dr. T. Edward Hollander
Chancellor
Department of Higher Education
Dr. Fred G. Burke
Commissioner
Department of Education

Princeton

Trenton

TABLE OF CONTENTS

Preface

Introduction

Chapter One

Planning for Higher Education in New Jersey	1
---	---

Chapter Two

The Challenge Ahead	5
Education in a Technological Society	5
Liberal Education for Social Change	6
The Size and Composition of the College Population	7
Public Priorities and Fiscal Resources	8
The Role of Government	9
The Board and Department of Higher Education	9
The Chancellor	11
Institutional Quality	11
Affirmative Action	12
International Education	14
Research	14
Cultural Responsibilities	15
Policy for the Decade Ahead	15
Opportunities for Higher Education	15
Quality of Educational Programs	16
Research and the Advancement of Knowledge	16
Management and Accountability	17

Chapter Three

The Role and Mission of New Jersey's Institutions of Higher Education ...	19
Rutgers, The State University	19
The State Colleges	24
The Community Colleges	28
The New Jersey Institute of Technology	33
The College of Medicine and Dentistry of New Jersey	34
The Independent Institutions of Higher Education	36
Interinstitutional Cooperation	38

Chapter Four

Enrollment Goals and Projections	41
Undergraduate Enrollment Goals	41
The Proportion of High School Graduates Going to College	41
The Role of Out-of-State Institutions	42
Attracting Out-of-State Students	42
The Retention of Students	43
The Enrollment of Transfer Students	44
The Enrollment of Older Students	44
Statewide Enrollment Projections and Goals	45
Undergraduate Enrollments	47
Graduate and First Professional Enrollments	51

Chapter Five

Providing Educational Opportunity	55
Admission Policies for the 1980s	55
Increasing Access	56
Matching Student Needs with Institutional Strengths	59
Increasing Access to Transfer Students	63
Admission Policies and Enrollment Goals	65
Rutgers, The State University	66
The State Colleges	71
The Community Colleges	76
The New Jersey Institute of Technology	79
The College of Medicine and Dentistry of New Jersey	81
The Independent Colleges and Universities	83
Financial Aid	85
Expansion of Financial Aid Programs	88
Financial Aid Information	89
High School-College Articulation	92

Chapter Six

Assuring Academic and Institutional Quality	95
Academic Program Quality	95
Minimum Standards and Public Disclosure	96
Review of Academic Programs	97
Standards for Recognition of Non-Collegiate Programs	99

Quality and Development of the Faculty.....	101
Faculty Renewal Through More Effective Recruitment	102
Strengthening Existing Faculty Resources	103
Maintaining Flexibility within the Tenure System.....	105
Basic Skills Testing and Programs.....	107
Basic Skills Development	108
College Basic Skills Testing and Remediation.....	109
Basic Skills Testing and the Educational Opportunity Fund Program.....	112
Coordination with the Department of Education	114
Bilingual Education.....	115
Institutional Resources	118
Libraries.....	118
Collection Development	118
Non-Print Media in Academic Libraries.....	119
Access to Facilities and Collection	120
Inter-institutional Cooperation	121
Automation	122
Funding.....	123
Cooperation and Planning	124
Student Services and Facilities	125
The Delivery of Student Services on the Campus	126
Statewide Coordination, Information, and Funding	127
Meeting Student Housing Needs.....	128
Computers and Data Processing Services	130
Responsiveness of Computer Resources	131
Coordination of Delivery Systems	132
Guidelines for Planning.....	136
 Chapter Seven	
Strengthening Programmatic Mission	137
Research and Scholarship	137
Graduate and Professional Education	140
The Future Development of Doctoral Programs	141
The Distribution of Master's Programs	142
Graduate Medical Education.....	144

Assuring Broader Access and Financial Support	145
Vocational Education	146
Mission and Coordination	147
Enrichment	149
Cooperative Education	150
Health Professions Education	151
Programs	152
Clinical Resources	153
Legislation	154
Developing International Perspectives	154
Education Services in Urban Areas	156
Access	157
Programs	158
Community Service Programs	161
Lifelong Learning	161
Assessment Programs	162
Other Programs and Services	163

Chapter Eight

Financing Higher Education in the 1980s	165
Enrollments and Resources	165
Tuition and Tuition Aid Grants	167
Institutional Role and Mission	168
Support for Special Missions	169
Categorical Financing for Unique Program Resources	170
Institutional Support Activities	170
Capital Maintenance, Renovation, and Construction	171
Staffing Requirements	173
Adjustments for Inflation	174
State Aid for Independent Colleges and Universities	174
State Aid for the County Colleges	175
Autonomy of Institutional Financial Operations	175
Federal Support for Higher Education	177
Uniform Accounting Structure	178
Financing Assumptions	179

APPENDICES

Appendix A:	Members of Statewide Plan Task Forces	181
Appendix B:	Methodology of Enrollment Projections	187
Appendix C:	Minimum Requirements for Degrees and Definitions	199

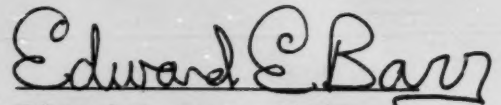
PREFACE

Since its establishment in 1966, the Board of Higher Education has regarded the development of a systemwide plan as one of its most fundamental and immediate responsibilities to higher education in New Jersey. Given the nature and extent of the problems we expect will confront us in the last decades of this century, the responsibility assumes even greater immediacy and magnitude. We believe that, during this time, the role of colleges and universities must not diminish but, rather, that such institutions must remain sufficiently active, flexible, and varied so that they can fulfill the social and educational purposes for which they were intended. We are also certain that it will become more and more difficult for institutions to meet their social responsibilities fully during a time when resources are likely to be less abundant than before.

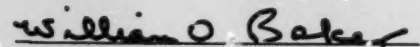
Our earlier plans of 1970 and 1974 and the goals and strategies they enunciated have helped us to make progress toward offering educational opportunity and diversity to significantly greater numbers of New Jersey residents. We are proud of these accomplishments. And we remain very much aware that, while much more needs to be done, our advances as a State system were made possible by the good will of our citizens and a concerted effort of the Board and Department of Higher Education and, especially, of the colleges and universities themselves.

Encouraged by our achievements, we go forward confident that we can adapt to the change of a new era and hopeful that we can move the higher education system further toward meeting the cultural, social, and economic needs of the State of New Jersey and its citizens.

In this spirit, we offer as a guide, The Statewide Plan for Higher Education.



Edward E. Barr, Chairman
Board of Higher Education



William O. Baker, Chairman
Statewide Plan Committee

INTRODUCTION

The 1981 Statewide Plan for Higher Education represents the work of many individuals extending many months. From the beginning, the Board of Higher Education perceived the importance of having broad representation from the higher education community and the public at large in the creation of the Plan. To this end, the Board established twenty Task Forces of approximately twenty persons each to study selected issues and questions considered to be critical in the years ahead.¹ Beginning in Fall of 1978, the Task Forces worked diligently in the general areas of access and opportunity, of demand for higher education services, of academic and institutional quality, of programmatic differentiation, of student and institutional support services, of financing, management and coordination, and of accountability. The Task Forces completed their reports in the Spring of 1979.²

These reports served as the basis for the Plan and as the primary source for the Board of Higher Education's Master Planning Committee which was responsible for overseeing the development of the Plan. Staff of the Department of Higher Education reviewed each of the reports and added its own insights and points of view as the first draft of the Plan was prepared.

The first draft was distributed widely to the academic community and the general public in December, 1979. Many comments and suggestions were received, each of which was reviewed by the Committee, working with Department staff, and a second draft prepared and similarly distributed in September, 1980.

In October of that year, the Committee, joined by other members of the Board of Higher Education, held hearings throughout the State to secure public comment so that the Plan could be refined further and the strongest possible statement presented to the full Board of Higher Education for consideration in April, 1981.

The Board of Higher Education owes special gratitude to the chairmen and members of the Task Forces, whose extraordinary effort and diligence made this Plan possible. Their work reflects their commitment to the importance of a strong system of higher education for the people of this State.

¹ The Task Forces and their membership are listed in Appendix A. Their reports are available from the Department of Higher Education on request.

² Although they are not specifically included in this particular Plan, important planning activities are also continually carried out under the auspices of the Board of Higher Education in such areas as health, the Educational Opportunity Fund, engineering and related technologies, capital construction, and fine arts.

We are also grateful to the members of the Board's Master Plan Committee: Rabbi Harry B. Kellman, Mr. P. Paul Ricci, Mr. Sydney G. Stevens, and Dr. Deborah P. Wolfe, and especially its Chairman, Dr. William O. Baker, for their dedication and work in guiding the Plan to its completion during the two years of its development.

We also thank the staff of the Department of Higher Education for their expert support and service to the Committee and the Task Forces, and we acknowledge the special contributions of the Task Force coordinators who carried out their responsibilities vigorously and admirably.

The Board is mindful that no future can be predicted with certainty, nor can any plan be conceived that will guide us through the future perfectly. We believe that planning must be continuous and that many of the suggestions we put forth today may require alterations and adjustments tomorrow. We are prepared to make the necessary accommodations as needs arise. We are resolved, based on the energy and commitment manifested by all who participated in bringing this Plan to its issuance, that our system of higher education will remain responsive to the public as it gains in quality and scope.

CHAPTER ONE

PLANNING FOR HIGHER EDUCATION IN NEW JERSEY

Higher education in the United States never has been a single or unified system; each state has created its own structure in response to its own particular needs. Like many states in the northeast, New Jersey began with a strong commitment to independent higher education, believing education to be a private responsibility and not a primary concern of the state.

The limitations of retaining this historical pattern appeared clear when, after the Second World War, higher education came to be regarded as necessary for individual advancement and essential to a healthy society. Dramatically increasing numbers of high school graduates demanded higher education opportunities and New Jersey, a state which sent the vast majority of its college students to other states, relied inordinately on its independent institutions for the higher education of its citizens, and had no medical or dental schools, was unable to respond.

As early as 1956, studies, fact papers, and analyses, prepared under a variety of auspices, pointed to the quantitative and qualitative inadequacy of public higher education in New Jersey.¹ By the early 1960s, the situation reached crisis proportions as neighboring states, answering the heightened demands of their own constituencies, became more and more unwilling to accept New Jersey students, and the State's independent institutions could no longer accommodate as large a share of growing student populations as they had in the past. In 1965, for example, New Jersey provided only 30,000 spaces in its public institutions while 60,000

¹"New Jersey's Undergraduates 1954-1973," N.J. State Department of Education, 1956.

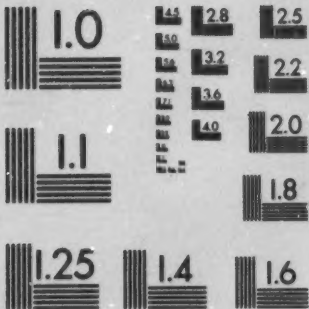
"College Opportunity in New Jersey," N.J. State Department of Education, 1957.

"Education Beyond High School: The 2-Year Community College," N.J. State Department of Education, 1960.

"Higher Education in N.J.," League of Women Voters, 1961.

"The Needs of New Jersey in Higher Education 1962-1970," The Strayer Report, 1962.

"The Newsom Report," Governor's Committee on N.J. Higher Education, 1964.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

students left the State for their education, 4,000 well-qualified State residents were denied admission to Rutgers, the State University, and 6,000 were turned away from the state colleges.

That same year Governor Richard J. Hughes appointed the Citizens Committee for Higher Education to study higher education in New Jersey and to make recommendations for its improvement. Chaired by Robert F. Goheen, then President of Princeton University, the Committee issued its report, A Call to Action, that enunciated in stark detail the failures of the State to support and provide adequate educational opportunities for its citizens. This report offered suggestions for corrective action which included the development of a master plan to accommodate the enrollment of an additional 10,000 high school graduates who were expected to seek admission to college.

Shortly thereafter, the Executive and the Legislature, recognizing the immediacy and gravity of the situation, established the Board and Department of Higher Education through the Higher Education Act of 1966 and charged the new agency to "develop and maintain a comprehensive master plan which shall be long range and comprehensive in nature and be regularly revised and updated."

In 1970, two and one half years after it was established, the Board offered Goals for Higher Education in New Jersey: Phase I of a Master Plan² which established the philosophy and the broad goals the Board believed should influence the development of the system. The goals were directed essentially toward the provision of more and diverse opportunities for higher education and recognized the need to assure each individual the opportunity to be educated to the height of his potential ability and to eliminate financial barriers to higher educational opportunity. The Phase I Plan also recognized the responsibility to foster an integrated system of both public and independent colleges that would offer excellent programs and that would be sufficiently varied and flexible to respond to new and emerging

² Prior to issuing Master Plan I, the Board commissioned three studies:

Meeting New Jersey College and University Facilities Needs Through 1980. A report to the New Jersey State Commission for the Higher Education Facilities Act of 1963. Robert Heller Associates, Inc., Trenton, August 1968.

Higher Education in New Jersey: A Facilities Plan. State Board of Higher Education. Trenton, 1968.

Meeting the College Costs of New Jersey Students--The State's Role. A report to the New Jersey State Scholarship Commission. Robert Heller Associates, Inc., Trenton, June 1969.

social and community needs. In addition, this Plan stressed the effective use of all available resources and the importance of advancing research and knowledge in a climate free of restraints.

In its second planning endeavor of 1974, A Development Plan for Higher Education in New Jersey, the Board was concerned with the overall need for undergraduate, graduate and continuing education, the nature of the educational system best suited to meeting those needs, and the role that each of the State's independent and public colleges should play in that system. Its fundamental purpose was to recommend changes that would result in the establishment of a comprehensive system that would maintain the broad philosophy and support the goals set forth in the previous plan.

The third phase of the Master Plan, begun in 1971, examined the State's needs in particular programmatic or subject matter areas such as environmental studies, health professions education, fine arts, library education, and clinical psychology.

The results of these years of planning have been heartening. The system has expanded so that approximately 60 per cent of New Jersey residents who attend college are now educated in New Jersey as opposed to 40 per cent in 1967, and the number of full-time undergraduates has increased from 75,300 in fall, 1967 to 153,700 in fall, 1979.

During this time the College of Medicine and Dentistry was established, with campuses in Newark, Piscataway, and Camden; the county college system developed; and three new state colleges opened. The State University tripled its enrollment and developed its Newark and Camden campuses. Newark College of Engineering, with the addition of the New Jersey School of Architecture, evolved into a technological university, the New Jersey Institute of Technology. Also during this time, the state colleges moved away from their initial purpose of teacher training to become more diverse institutions offering a wider variety of undergraduate programs that reflect the respective strengths of each campus.

These years also saw the expansion of student assistance programs that opened access to greater numbers of students, including the economically and educationally disadvantaged and underrepresented minority populations, so that New Jersey, a state that had never funded higher education efforts in proportion to its wealth, has emerged as a leader in the nation in student aid support of students enrolled in its system.

These were years of innovation as well. Thomas A. Edison State College, New Jersey's external degree granting institution, was established and such new educational arrangements as the Hudson County Community College Commission and the Union County Coordinating Agency evolved as did contractual arrangements with out-of-state schools of veterinary medicine and optometry.

Even with these and other advances, considerably more must be accomplished before New Jersey realizes the comprehensive system of higher

education that will meet the goals envisioned initially by the Board. It is also true that present planning efforts occur in a very different social, economic, and educational environment than did earlier attempts. However, New Jersey now has a system in place that is both diverse and manageable in size and which can be strengthened further through careful and thoughtful planning.

CHAPTER TWO

THE CHALLENGE AHEAD

Higher education both reflects prevailing social conditions and, at the same time, brings about changes in society through its instructional, research, and public service activities. Planning for higher education must therefore attempt to anticipate basic changes in society and respond to the challenges they present.

Several major assumptions about the future of our society underlie this plan: individuals will have to make increasingly complex decisions as rapid advances in technology change their lives; changes in the size, composition, and distribution of the population served by higher education will take place; competition for limited fiscal resources will increase as public priorities change in response to new social needs; and government increasingly will hold institutions accountable for their use of public funds. In the face of such pressures, institutional autonomy can best be defended if colleges and universities themselves establish and implement procedures of performance evaluation which assure high quality. Beyond its more familiar functions, higher education should take the initiative in establishing its leadership in the development of international education, in supporting research as a high social priority, and in enhancing the cultural life of the nation.

Education in a Technological Society

We live in a society characterized by technological advances that extend beyond agriculture and manufacturing to the administrative and service industries. An increasing proportion of the work force will be required to have the technical competence to manage complex problems of production, distribution, administration, and delivery of services. The need for technical competence already extends beyond the categories of "skilled labor" and "white collar" workers to a broad cross-section of jobs in the economy. Better educated people will be required for the jobs of the future, particularly those requiring an understanding of technologies and their applications. Increased productivity in agriculture and manufacturing has reduced the proportion of the work force engaged in those areas. The shift taking place to clerical, service, and administrative jobs will be accompanied by the introduction of even more complex and costly technological capital, requiring still higher levels of worker sophistication. Advancing technology and wholly new discoveries will increase the need for job-related continuing education and "lifelong learning" as more people seek to adjust to changes in their work. In addition, pressures toward specialization may intensify because it will become more difficult to maintain competence in a growing number of technical areas.

Our ability to treat the environment as a free commodity is ending as demands for air, water, and energy have come to exceed the "free" supply

or have tainted much of what is left. Industrially advanced societies like the United States have crossed the threshold toward environmental degradation. It is a major challenge of the 1980s to control and reverse this trend by employing the technology which is itself a partial cause of the problem. What is needed is a firm commitment to develop the technical solutions to restore what has already been damaged and to protect our environment in the future. Higher education can make major contributions to the achievement of these objectives.

Liberal Education for Social Change

To benefit properly from the fruits of our advancing technology, however, scientific advances must be balanced by a commensurate emphasis on human values. The liberal arts and humanities offer just such an emphasis. A population of broadly educated citizens is essential to the proper functioning of a democratic society.

One of the major responsibilities of higher education is to develop the ability of students to engage the critical issues of their time and to make judicious personal decisions and choices among the options available to them. To do this, collegiate institutions must introduce students to varying, and often conflicting, ideas and values. In fulfillment of this mission, colleges and universities provide a forum for the continued testing of old ideas and for the shaping of new ones. The nation depends on the vitality of our colleges and universities because they educate a citizenry that can participate in the democratic process. Students and graduates who are equipped to lead lives of initiative and imagination are our best investment in the future.

The pursuit of learning and the ability to exercise critical thinking have their bases in a strong liberal arts foundation. The study of philosophy, history, languages, literature, the arts, and the physical, biological, and social sciences provides the intellectual discipline through which individuals can relate the tangible issues which confront them to a more universal continuum of ideas. Such study teaches how to define terms, to tell fact from opinion and the proven from the plausible, to discern and challenge arguments, and to undertake the study of new subjects independently. A liberal education should provide individuals with perspectives on themselves and the world in which they live; it should enable them to analyze complex ideas, draw logical conclusions, and present their thoughts clearly and concisely in both written and oral form. Students who develop these skills will have the essential tools for productive and fulfilling lives.

The greatest public service New Jersey higher education can perform in the 1980s is to prepare people who can help to solve society's problems, who can articulate their own needs and understand the needs of others, and who can proceed to create new goals and develop new forms of learning and doing. People so educated will be able to assume new roles as changing technology renders old ones obsolete. People who have gained a sense of their own identity and confidence in their abilities, who have

formulated a sound value system, and who can develop and use new information are the basis for a healthy society.

The Size and Composition of the College Population

National forecasts project a general leveling off and stabilization of population growth from native births by the early part of the twenty-first century. The New Jersey Department of Labor and Industry estimates that New Jersey had a population of 7,349,000 in mid-1978, a slight growth above the April 1970 census figure of 7,171,112. It projects a 1990 population of 8,232,000 in New Jersey, an increase of 12% over a twelve year period which is considerably lower than previous rates of increase. This is especially significant for higher education in that the size of the young adult population will be declining; the number of 18 to 22 year olds or traditional students, who currently represent a majority of college students, will decrease about 25% by 1993. At the same time, we may experience a growth in the enrollment of the non-traditional student population including women entering or re-entering the job market, older persons, and such special population groups as prison inmates, blue collar workers, and members of the military services.

The assumption that older and other non-traditional students will continue to increase at the same rate as in the last decade and that they will fill the gaps left by the 18 to 22 year old groups must be approached carefully. Most older students attend on a part-time basis, and certainly it requires greater numbers of part-time students to replace full-time students. Current trends suggest that most categories of the older students who can be expected to seek traditional academic offerings are already enrolled. Moreover, the shrinking number of 18 to 22 year olds might force employers to compete more strenuously with the colleges for these older persons. In addition, an increasing proportion of the preparation at the higher education conceptual level is taking place outside the colleges in industrial and business settings.

A general shift in population is taking place from the Northeast and Midwest to the South and Southwest; a continuation of this pattern would further increase the numbers of New Jersey residents who leave the State for higher education opportunities elsewhere. This possibility argues for redoubled efforts towards improving the quality and attractiveness of our New Jersey colleges and universities.

A larger proportion of the total college enrollment, moreover, will be drawn from youth from minority groups, the largest of which are black and Hispanic, and from those with limited English-speaking ability. This new college population, concentrated in urban areas, will have a special need for higher education, which might represent their single best opportunity for upward mobility and the chance to obtain the fundamental knowledge and skills needed to function effectively in the job market. However, a significant proportion of this population is likely to lack adequate preparation for college level study. The colleges consequently will

be presented with a demanding but exciting opportunity to add a new dimension to the American tradition of providing open access to higher education. This will include developing especially designed educational instruments and techniques necessary to prepare these young people for productive careers, as well as cooperative efforts with those responsible for pre-collegiate education to raise the rate of high school graduation of these students.

Higher education, in this sense, represents one of the few remaining avenues available for achieving higher lifetime earnings and a better life.

Public Priorities and Fiscal Resources

The ability to overcome the problems arising from social heterogeneity will be determined by the extent to which changing public priorities can be balanced with equal measures of social justice.

Inflation and low growth in personal standards of living already have created pressure for a reduction in the rate of governmental expenditure and the elimination of both real and perceived waste and inefficiency in publicly-supported activity. Unfortunately, the result also may be a reduction of programs designed to meet the needs of society's most vulnerable members. Restricted growth of fiscal resources resulting from declining productivity, resistance to higher taxes at the state and local levels, and the rising cost of resources, particularly energy, will limit growth and further dampen opportunities for productivity increases.

This State, like the rest of the nation and the world, is faced with a crisis of world politics, international tension, a stranglehold on oil costs beyond our control, unparalleled inflation, and an inability of the United States, New Jersey, and other political segments to find the money to carry on even normal governmental functions without deficits. Although Statewide planning must go forward, it is important to recognize that what is presented here will be unobtainable unless the world, the country, and the State can fight or negotiate its way out of its multiple problems which have fiscal impact.

Nonetheless, the U.S. economy is still basically strong; the problems of energy availability, despite an obvious short-term vulnerability, are solvable. Other resource shortages are short-range in nature since traditional sources of most raw materials are growing even as wholly new sources are discovered or become economically feasible; recent declines in the growth of productivity are reversible. The economic well-being of the world and nation will therefore benefit from balanced programs of training and education, innovation and institutional change, and savings and investment.

Even so, it would be foolish to minimize the probable impact of the fiscal constraints under which higher education will have to function. Financial limitations will have to be considered in planning and budget processes so that correct choices, however difficult, can be made among the higher

education activities to be supported by the public. Greater emphasis will be placed on performance leading to consolidation, reallocation of resources, and even retrenchment when necessary. The higher education community must concentrate on maintaining and enhancing the quality of institutions and their offerings despite these fiscal constraints, and its success will depend more heavily than in the past upon coordination by a sensitive and well-informed agency that can act as a buffer between the institutions and their sources of public financial support.

Role of Government

Public demand for accountability on the part of government-supported institutions is likely to increase with Federal and state support of higher education. The consequences of collective bargaining activity, the requirements for increased data collection, the emergence of ever-larger organizational structures, along with the accountability demands flowing from increased public financing, suggest a proliferation of bureaucratization and centralized control which could threaten academic freedom and further ensnare institutions of higher education in coils of red tape at the very time when greater flexibility is needed. The entire community must seek to maintain the balance between institutions and government if colleges and universities are to preserve their essential freedoms. Wherever possible, the regulatory route should be avoided in favor of creating well selected and carefully drawn incentives for institutional response.

The Board and Department of Higher Education

With the passage of Chapter 302 of the Laws of 1966 the Legislature conferred degree granting and licensing responsibilities with respect to institutions of higher education to the Board of Higher Education and created the Department of Higher Education as a principal department of the State government, responsible to the Governor and the Legislature.¹

This statute requires that the Board "advance long range planning for the system of higher education as a whole in the State" and gives to the Board the responsibility to conduct research on higher education needs; develop and maintain a comprehensive master plan; establish new colleges, schools, units, divisions, institutes, departments, branches, or campuses as required by the master plan; and keep the Governor, the Legislature, and the public informed of the needs and accomplishments of public higher education in New Jersey.

¹The statutory powers and duties of the Board and Department are contained in N.J.S.A. 18A:3-14 and N.J.S.A. 18A:3-3 respectively.

The statute requires that the Board also "establish general policy for the governance of the separate institutions." The specific responsibilities of the Board relating to all public institutions of higher education include establishing minimum admission standards and minimum standards for granting degrees, approving new programs and degrees, and approving discontinuance of degrees and educational programs; reviewing periodically existing programs of instruction, research, and public service and advising public institutions of desirable change; setting policy on salary and fringe benefits and establishing general personnel policies; and determining tuition rates and other fees to be paid by students at the state colleges.

The Board also has the duty to "coordinate the activities of the individual institutions which, taken together, make up the system of higher education in New Jersey" by encouraging harmonious and cooperative relationships among all public and private institutions of higher education and to assure that their efforts, taken together, will best meet the goals and obligations of the New Jersey system of higher education. Such coordination has many specific purposes, including assuring that resources are used most effectively, that programs and facilities are not duplicated unnecessarily, and that the wide variety of programs required by the citizens of the State can be provided.

The law gives the Board responsibility to "maintain general financial oversight of the State system of higher education." The Board therein receives all budget requests from the public institutions, coordinates and balances such requests, and submits a combined request for appropriations annually to the Governor; is an agency of communication with the Federal government that receives and recommends the disbursement of Federal funds; and exercises general visitorial powers of supervision and control over such institutions of higher education as may be utilized by the state.

The Board of Higher Education has the responsibility to "license institutions of higher education" and "approve the basis and conditions for conferring degrees" under such rules and regulations as it may prescribe. In addition, for those institutions established since April 1, 1887, it must approve the basis or conditions for the conferral of degrees.² For those

² The statute provides that institutions established before 1887 would be exempt from the provision which prohibits other institutions from "admit (ting) any such person to the grade of a degree by conferring, or participating in conferring, any degree upon any person without first submitting the basis or conditions thereof to the Board of Higher Education, and obtaining its approval thereof, and of the practice of conferring and bestowing such degrees." These institutions are Centenary College, Drew University, Princeton Theological Seminary, Princeton University, St. Michael's Monastery, St. Peter's College, Seton Hall University, and Stevens Institute of Technology.

institutions which do not have either regional or professional accreditation, the Board assumes the task of demanding minimal fulfillment of those standards commonly associated by the academic community with the conferral of degrees. For institutions which are regionally and/or professionally accredited, the Board of Higher Education shares with the institution and the accrediting association the responsibility of maintaining and enhancing the quality of higher education.

These powers and responsibilities are limited or made more specific by other statutes which pertain to specific institutions, such as Rutgers, the State University, or to sectors, such as the state colleges.

The Chancellor

The Chancellor is the chief executive and administrator of the Department of Higher Education. He is charged with enforcing all rules and regulations of the Board of Higher Education, organizing and administering the staff of the Department, annually reporting to the Governor on the Department's operations and assisting the Board of Higher Education in carrying out its responsibilities.

In addition, the Chancellor's office is required by law to coordinate State and Federal activities relating to higher education and to provide advice to the Governor on affairs and problems of higher education including recommendations for proposed legislation. The office also encourages cooperation among institutions, stimulates programs related to higher education, maintains an inventory of data and information, and acts as a clearing house and agency for information on State and Federal services and programs.

Institutional Quality

Not the least of the challenges facing higher education lies in the shift in the public's willingness to support education at all levels. Already evident are more discriminating attitudes toward the assumption that increased expenditures for education are of unquestioned benefit to society. The public skepticism that has arisen over the value of education will engender increasingly vocal demands for evidence of excellence in higher education programs. In large part, these demands arise because, as a nation, we have to come to expect much from a higher education system which historically has responded to the challenges of agricultural, industrial, technological, scientific, and medical development and has provided educational opportunity to massive numbers of citizens. In order to achieve the goal of academic excellence in an era of leaner financial support, colleges and universities will be called upon to concentrate support on programs of demonstrated worth, rather than disperse funds equally among all programs. Some programs will have to be dropped, and some institutions may be forced to close. Continued funding of all marginal programs could eliminate opportunities to improve the quality of other programs and the

possibility to launch new and excellent programs.

Despite the overall enrollment growth of the past decade, more than 160 colleges across the nation have terminated their activities. Because such terminations have traumatic effects on large numbers of people, any decision to close a college must be founded on educational considerations, student demand, and societal need factors and must minimize the influence of political considerations. The major responsibility for such decisions must rest at the institutional level, with the function of the coordinating agency largely confined to defining the circumstances which would indicate a need for institutional action and procedures which would support institutional action.

Institutional expenditures must be properly balanced among the various components that contribute to institutional quality; support for libraries and student services, staff and equipment, and buildings and ground maintenance is essential and must not be sacrificed in order to maintain the size of the faculty.

The general fiscal constraints under which we will operate, the competing demands for other services and activities at the institutions, the foreseen drop in the total number of faculty required by the institutions, and the obligation to support not all programs but only those of demonstrated need and quality will challenge the traditions, concepts, and practices of the tenure system. The current practice of awarding tenure as a form of permanent legal contract will be called into question. Although individual faculty members must be protected from capricious dismissals and the original goal of academic freedom must be sustained, there are alternative supplemental safeguards for achieving those goals.

At the same time, the maintenance of faculty vitality and quality is of fundamental importance. The need to improve standards and instruments for faculty recruitment, renewal, stimulation, support, and encouragement must be recognized. Programs to enhance faculty performance should receive support. Ultimately, such programs should enhance the quality of teaching in the classroom and hence the effectiveness of the educational process.

Affirmative Action

Federal and State statutes and executive orders require that New Jersey colleges, universities and the Department of Higher Education take affirmative action to assure increased employment opportunities for minorities and women and provide for the imposition of sanctions in those instances where reasonable progress cannot be demonstrated. As a matter of public policy, the Board of Higher Education has affirmed its commitment to do all in its statutory and persuasive power to see that adequate progress is made to accelerate the hiring of groups previously under-represented in higher education employment, which include blacks, Hispanics, other Federally defined minorities, and women. Trustees of each public institution have

reported to the Board on the effectiveness of their current affirmative action programs, and the private sector will also be asked to engage in a similar review on a voluntary basis. In addition, the Chancellor reports annually on the status of recruitment efforts for professional and non-professional positions in the Department of Higher Education.

Data collected since 1975 concerning affirmative action progress in the public institutions indicates that, while there has been a decrease in the total number of faculty positions, proportionately there has been a greater decrease of minority faculty and only modest progress in the aggregate numbers of blacks, Hispanics and women employed professionally. For professional positions in the Department of Higher Education, the representation of women in the administrative ranks has increased. However, for minorities, the number of black professionals has remained constant, and the representation of Hispanic professionals remains well below targeted affirmative action goals. In view of the probable impact of the fiscal constraints under which higher education will have to function in the decade ahead, it is clear that maintaining effective affirmative action programs will call for unusual energy, foresight, and creativity.

With projected declining enrollments and a concomitant stable or declining professional staff, there will be even less hiring flexibility in future years. This trend will adversely affect the representation of minorities and women unless extraordinary recruitment strategies are developed. Additionally, any forced reduction in current staff will disproportionately affect these groups unless a commitment is made to address the impact that traditional principles of seniority will have on affirmative action goals. Therefore, it is absolutely essential that the higher education community adhere not only to the legal requirements but also to the spirit of affirmative action in the recruitment, hiring, and retention of faculty, staff, and personnel at all levels of employment. This commitment will involve the active cooperation and support of all employees, especially of those who serve on search committees, to seek out and encourage the employment of talented minorities and women. It requires that, once hired, these individuals have access to counseling, training, and other career development opportunities as they move forward in their professional careers. It means that employment efforts must be supplemented by the continued recruitment of minority and female students to all educational programs, particularly graduate and professional programs, so that a pool will be established from which many new faculty and professional staff members can be recruited.

While there is now a sizeable pool of active and successful minority and women professionals looking for employment opportunity in higher education, budgetary constraints make it increasingly difficult for institutions to act effectively in realizing their affirmative action goals. A concerted effort by the higher education community and the active participation of the Board of Higher Education will be needed to assure that incentive strategies and resources will be available to assist in the implementation of effective affirmative action programs in the decade ahead.

International Education

A curious and harmful trend in recent years has been the decline in foreign language and culture programs in the secondary schools and colleges at a time when the economic and cultural dependence of this nation on others is increasing. In the opinion of some experts, the decrease in foreign language study probably has contributed to the decline in English language ability exhibited by many of our students. The expansion of international travel, the growth of multinational corporations, increased communication and interaction between the peoples of the world, and the growing importance of Western Europe, Africa, Latin America, and the Middle and Far East demand greater international awareness and require a broader understanding of different languages and cultures other than our own. Knowledge of other languages and the nations where they are spoken is essential if our nation is to keep its place in the world.

Research

The continuing need for knowledge and technology in our society is indisputable: knowledge and technology to overcome our problems with energy, the environment, and health; knowledge and technology to alleviate some of the very problems caused by earlier technology; knowledge and technology to help spur the productivity increases and economic development which are essential if the benefits of our society are to be shared more widely. Knowledge and technology are the results of research, both basic and applied. It is particularly disturbing, therefore, that external sources of funding of basic research have been decreasing.

Moreover, the colleges and universities have been experiencing a decreasing role in research and scholarship relative to other institutions in our society. The result might be that higher education's role in research, particularly of the more fundamental type, will be in jeopardy at the same time that the extent of applied research efforts now underway in industry, the military, and non-profit institutions also may be insufficient for the nation's requirements.

Over the past fifteen years, expenditures for research in the United States have declined 25% in proportion to the GNP. During this same period such nations as West Germany and Japan have been increasing their expenditures. Indeed, the U.S. Patent Office reports that foreigners now receive 37% of all patents in this country compared with only 29% in 1960, and the total number of patents issued appears to be declining.

It is time for the higher education community to identify its research strengths, establish priorities for its research efforts, secure the funding necessary for the increasingly costly and complex equipment required for research, and assure the sources of funding to support these efforts. The people and State of New Jersey have a substantial interest in and responsibility for the support of research.

Cultural Responsibilities

Sponsorship of cultural activities and events has traditionally been a responsibility and aspect of collegiate activity. Increased leisure and wider public appreciation of the arts will result in a more varied and rich cultural environment. Higher education institutions are hardly the only agencies with roles to play in serving this widespread public interest and appreciation of cultural pursuits. Theirs is certainly a major role, however, and it should be preserved in the face of expected pressures for curtailment in favor of other institutional priorities.

POLICY FOR THE DECADE AHEAD

Clearly, higher education will encounter a series of very new and different challenges in the years immediately ahead. Nevertheless, the fundamental purposes of higher education as they have been defined over the last quarter century remain essentially unchanged. Upon higher education still rests a major responsibility for expanding and transmitting the store of human knowledge and for educating and preparing people, both young and old, for the social, economic, scientific, and political complexities of both the present and the future.

The Board therefore reaffirms the broad educational and social goals and policies established in earlier planning efforts at the same time that it recognizes that the strategies advanced for their achievement must relate both qualitatively and quantitatively to anticipated conditions.

Opportunities for Higher Education

Each individual has the right to the opportunity to be educated to the height of his potential. However, given the changing characteristics of the population, technological advances, and shifts in the composition and size of the workforce, reaching this goal takes on an added dimension. The following policies apply in this regard.

1. All high school graduates or adults with equivalent education should have the opportunity to enter post-secondary programs that meet their needs and from which they can benefit. To achieve this goal, appropriate new programs should be established, and present programs that are successful should be refined, improved, and expanded where appropriate.
2. As far as fiscal resources permit, economic barriers to higher education or choice of institution should be reduced and eventually eliminated.
3. Programs designed to recruit, admit, and support students heretofore excluded by conditions of economic and educational disadvantage, should be continued and strengthened.

4. Programs that provide educational opportunity to students whose educational needs are not met through the traditional model should be designed and offered.
5. Conditions that inhibit the mobility of students between two and four year institutions should be eliminated, and two year programs should be strengthened where necessary to assure further the opportunity for transfer.

Quality of Educational Programs

It is only through programmatic and institutional excellence that the individual student and society as a whole can derive the maximum benefit from the collegiate experience and the State can justify its investment in higher education. Each student has the right to an academic experience of the sort that will enable him to acquire the intellectual skills and to develop the personal values necessary for participation in a complex society. The following general goals are directed toward this end.

6. Liberal arts and sciences should be included as an essential component of all undergraduate degree programs so that students may be better able to assume new roles as changing technology renders previous ones obsolete, may develop personal value systems, and may develop the ability to discern and pursue future goals for society.
7. Colleges and universities should continue to provide remedial services until it can be demonstrated that they are no longer necessary; at the same time they should work cooperatively with the pre-collegiate educational agencies to eliminate the need for such programs.
8. Minimum standards for graduation from degree programs should be established so that student literacy and competence in particular disciplines may be assured.
9. The quality of each academic program at all institutions should be evaluated and strengthened where appropriate.
10. The quality of life and student services programs should continue to be strengthened at individual colleges.

Research and the Advancement of Knowledge

Institutions of higher education serve a distinct and essential purpose in the advancement of knowledge in its many forms, and institutions must identify and support their particular interests and strengths so that higher education can maintain its stature in meeting the nation's research requirements. The Board adopts the following policies with respect to the higher education research endeavor in New Jersey.

11. Appropriate research and scholarship activity at all four year institutions of higher education should be supported and strengthened; research activity and related doctoral studies at the limited number of institutions with the ability to meet nationally established standards of excellence should be especially encouraged.
12. The institutions should identify high technology needs and should offer research and instructional programs and design research programs that accommodate these needs.

Management and Accountability

As institutions of higher education come to rely more and more on government for financial support and the public becomes increasingly concerned with the way in which public funds are expended, the programs and practices of colleges and universities are coming under closer scrutiny. It is important, therefore, that institutions maintain their individual capacity and develop with the Board and Department of Higher Education effective systems of accountability that are consistent with institutional autonomy.

The fiscal conditions anticipated for the future will require greater coordination of the higher education system in New Jersey, more intensive management of institutions, as well as the responsible oversight of management by individual boards of trustees. The following policies will achieve this end.

13. Financing policies should be maintained that enhance equity among institutions with varied sponsorship and assure reasonable funding levels from Federal, state, private, and student sources.
14. Institutions that receive public funds should be held accountable for financial expenditures, for the efficiency and effectiveness of their programs, and for their performance with respect to established public policy.
15. Institutional expenditures should be properly balanced among the various components that contribute to institutional quality and should be directed toward programs of demonstrated quality on the basis of educational considerations, student demand, and need.
16. When necessary for educational reasons or for reasons of financial exigency, programs should be consolidated or closed to assure the continued strength of the institutions.
17. The time-honored separation of the academy from government should be maintained through governance by independent boards of trustees. Trustee development programs

should be conducted so that the trustee function in the assessment and maintenance of academic and institutional quality may be strengthened. Boards of Trustees should reflect the diversity of the society they serve, and the Boards of Trustees of the public institutions should be required to have among their membership women and members of minority groups.

CHAPTER THREE

THE ROLE AND MISSION OF NEW JERSEY'S INSTITUTIONS OF HIGHER EDUCATION

Fostering diversity of institutional programs and educational strategies in New Jersey's colleges and universities has been a primary objective of the Board of Higher Education since its earliest planning efforts. At the same time, however, the Board recognizes its responsibility to assure that public funds are allocated efficiently and that unnecessary duplication is avoided. Diversity, therefore, does not imply that all institutions should spread their resources among as many programs as possible. Although all institutions should provide programs that serve a wide range of student abilities, each institution should identify those individual programmatic areas it is most suited to offer. This objective is accomplished best when each institution has defined for itself a clear role and mission within the general area of responsibility for its sector.

The programmatic missions of the sectors of the New Jersey system have been defined over the years through statutes, planning efforts, and Board of Higher Education resolutions. After reviewing the distribution of undergraduate and graduate programs and the educational activities of New Jersey's institutions, it is apparent that, in general, Board policy and institutional initiatives have been consistent. With the exception of a few modifications and clarifications, the missions of the sectors are defined essentially by a continuation of their current range of programs and activities. However, some institutional roles and missions need to be more fully developed and clearly defined.

The following sections provide a general description of the role of each sector, the range of its programmatic mission, and a summary of areas of special concern for future development which are discussed more fully in later chapters of this Plan.

Mission of Rutgers, The State University

Rutgers, the State University is the only institution in the nation to include in its heritage the colonial college of the eighteenth century, the land-grant tradition of the nineteenth century, and the development of the modern state university. It was chartered in 1766 as the eighth college in the American colonies. In 1864, the college was designated the land grant institution of the State; in 1945, the units of Rutgers were declared the State University of New Jersey; and in 1956, new legislation formally established "Rutgers, the State University."

Rutgers now enrolls approximately 50,000 students within 23 academic units located on three campuses, and offers a wide range of undergraduate, graduate, and professional education. From its roots as a small colonial college, Rutgers has grown to include six undergraduate daytime liberal arts colleges; an evening liberal arts college designed to serve part-time,

adult students; graduate schools of arts and sciences; professional schools of management, criminal justice, education, engineering, law, library and information studies, nursing, performing arts, pharmacy, applied psychology, and social work; as well as the Agricultural Experiment Station and sixteen bureaus, centers, and institutes devoted to theoretical and applied research and public service.

These units all share the characteristics of a university and all contribute to the achievement of the University's mission of instruction, research, and public service. In all its colleges and schools, Rutgers offers a university-level education provided by a highly qualified, research-oriented faculty which is subject to the same University-wide appointment, promotion and tenure standards; furnishes the academic resources available only at a university; and serves students who have varied backgrounds and interests but who are united in their desire for knowledge and understanding and for achieving their goals and aspirations through a university education.

The University's instructional mission is to attract and serve primarily those students who have demonstrated or have the potential for academic excellence and to offer these students programs of the highest quality. While all of the undergraduate liberal arts colleges of Rutgers offer a university-level education, each of them also seeks to fulfill a special mission within the larger university framework. The University's Board of Governors has approved the principles which underlie the mission of each unit, as described below.

Camden College of Arts and Sciences, a liberal arts college which also offers baccalaureate-level professional programs, extends access to New Jersey citizens, especially those in the South Jersey area, who can best benefit from a university-level education. An urban college, CCAS has the advantage of a major metropolitan center.

Cook College offers liberal arts, environmental sciences, and agricultural programs with special emphasis on the study of people and the environment. The college has a long history of involvement in environmental studies, including instruction, research and service. The College draws on the resources of the Agricultural Experiment Station and the Cooperative Extension Service as well as its instructional faculty.

Douglass College, the University's undergraduate liberal arts college for women, is dedicated to the special challenge and responsibilities for understanding and furthering the expanding role of women in higher education and in society, particularly in careers previously not open to them. Douglass provides its students with the advantages of a women's college and also the broad resources of a large university.

Livingston College is an experimental college with a strong emphasis on the social and behavioral sciences, especially as these

assist the understanding of contemporary urban society. Its primary concern is to evoke from its students intellectual involvement in this society. Livingston has a special commitment to students who have previously been denied educational opportunities.

Newark College of Arts and Sciences, located in the State's largest urban center, offers a broad range of liberal arts programs as well as professional programs appropriately rooted in a liberal arts base. The College has a special mission to provide educational opportunities of the highest quality within a university setting for citizens of the State, particularly those of northern New Jersey.

Rutgers College, one of the eight colonial colleges founded prior to the American Revolution, was the nucleus around which the State University developed. It maintains its long history of providing a strong traditional liberal arts education to students who have the potential and motivation for outstanding academic performance.

University College, located in Camden, Newark and New Brunswick, is an evening liberal arts college designed especially for part-time students, most of whom are older than the typical daytime students and many of whom are non-traditional.

In addition to the arts and sciences and professional programs available at the University's liberal arts colleges, undergraduate professional education is offered by the Colleges of Engineering, Pharmacy, Nursing, and the Mason Gross School for the Arts, which help meet the State's needs for highly trained professional people in their respective fields.

Graduate education in the arts and sciences is also offered at all three campuses. Graduate arts and sciences programs as well as professional programs in business, public policy and law are given in Camden to meet the needs of southern New Jersey. New Brunswick is the principal locus of doctoral work in the arts and sciences for the public sector, and the campus also provides graduate professional programs in engineering, pharmacy, the arts, social work, psychology, library and information studies, and education. The Newark campus is the locus for graduate work in the arts and sciences for the northern part of the State, providing master's and doctoral level work in many disciplines. Graduate professional programs serving all the people of the State are offered in management, public administration, law, criminal justice, and nursing.

Active research and scholarship are expected of all faculty members at the University, and the organized research centers have special responsibility to achieve high levels of activity through sponsored research funded by the Federal government, corporations, and foundations, in addition to the support provided by the State. Public service is conducted through extension activities, which range from the work of county agents to continuing professional education programs and to services rendered by faculty

members, students, and staff to local, State, and Federal agencies and to professional organizations.

The programmatic mission of Rutgers is defined in the following ways:

1. The University should continue its primary responsibility in the State's public sector of higher education for fundamental and applied research.
2. Rutgers should continue its responsibility as the sole public institution to offer doctoral programs in the Arts and Sciences, Agriculture, Management (in conjunction with NJIT), Criminal Justice, Education, Library and Information Studies, Pharmacy, Applied Psychology, and Social Work.
3. Doctoral programs in Engineering and in the applied sciences should be offered by Rutgers. Because doctoral programs in these disciplines are offered by the New Jersey Institute of Technology, interinstitutional cooperation should be continued and additional areas for cooperation explored.
4. Rutgers should not offer first professional degrees in Medicine and Dentistry, nor should the University offer a first professional degree or a doctoral program in Architecture.
5. Rutgers University should have sole responsibility in the public sector for offering doctoral and master's programs in Law.
6. Master's degree programs in the Arts and Sciences should be offered by Rutgers on all three campuses.
7. Both Rutgers-New Brunswick and Montclair State College are designated as regional centers of excellence in the Creative and Performing Arts and should have responsibility for professional Master's degree programs in these areas.
8. The University should offer Master's degrees in professional fields among which are Business, Management and Public Administration, Criminal Justice, Education, Engineering, applied sciences, Library and Information Studies, Nursing, Pharmacy, Applied Psychology, and Social Work.
9. The University should offer such other professional Master's programs in the health professions as are built upon its basic strengths in the Arts and Sciences or are related to its professional programs and, where appropriate, offered in conjunction with CMDNJ.
10. The University should provide through its liberal arts colleges a full complement of undergraduate Arts and Sciences programs.

11. The University should offer undergraduate professional education in Criminal Justice, Engineering, applied sciences, Nursing, Business, Management, Social Work, and Teacher Education.
12. The University should have sole responsibility for first professional degree programs in Pharmacy.
13. Undergraduate professional programs in the Creative and Performing Arts should be the responsibility of Rutgers and Montclair State College.
14. In the health professions the University should offer undergraduate programs that are built upon an arts and sciences base or related to the institution's professional programs.
15. As Rutgers ceased to admit students to its associate degree programs in 1979, these programs should be phased out within the next four years.
16. The University should continue its land-grant tradition of providing public service to the citizens of the State and nation through its faculty, staff and students and through mechanisms of the Cooperative Extension Service and the Division of Continuing Education.
17. The University should offer continuing education programs (primarily not for credit) which complement its degree programs in the professions.
18. Extension programs and services which are associated specifically with its research units should continue to be offered.
19. The University should serve the public through non-degree programs for labor, management, and local and state government.

Within this broad programmatic mission and during the next decade, Rutgers should concentrate on three special areas developed in later sections of this Plan in order to realize the University's full potential for achieving and maintaining a national reputation for excellence. These follow:

Undergraduate Admissions

Rutgers should seek to attract and serve more of those students, both in-state and out-of-state, who have the highest potential and motivation, both by traditional and non-traditional measures, to meet the standards of a university-level education. To achieve this goal, the University should intensify its efforts to make the undergraduate experience more attractive by improving the quality of life on campus, by continuing special missions at the undergraduate colleges, by increasing further the diversity of the

student body, and by admitting greater numbers of transfer students who have demonstrated their academic abilities. (See the Chapter on Admissions Policy.)

Graduate Education

The University, through the internal planning and allocation process, should intensify its efforts to redeploy and concentrate its resources on those graduate programs with the highest potential for excellence. The periodic evaluation of graduate programs through external reviews should result in clear administrative action to strengthen, reduce in size, merge, or discontinue weak programs. Admission to doctoral programs should be carefully monitored and so controlled that only highly qualified students are admitted and the number of Ph.D. degree candidates realistically reflects needs and demands. (See the Chapters on Academic Quality and Graduate Education.)

Research

The University should continue to increase its efforts to promote sponsored research by returning a portion of indirect cost monies to the programs generating them, allocating Separately Budgeted Research funds to the most promising mission oriented research institutes, and establishing new research centers, especially in the social and behavioral sciences. Every member of the University faculty should be expected to engage in research and scholarship as well as offer challenging instruction. Teaching loads should be adjusted to reflect productivity in all assigned activities. (See Chapters on Faculty Development and Research.)

The Mission of the State Colleges

New Jersey's nine state colleges serve approximately 70,000 undergraduate and 14,000 graduate students enrolled in more than four hundred individual programs. They are primarily regional colleges, drawing most of their students from counties within a range of fifty miles, and provide access to higher education for large numbers of part-time and commuting students. The diversity of the state colleges reflects the differences in their origins, their location, and their individual responses to the changes in their mission mandated by the Legislature and planned by the Board of Higher Education since 1966.

The six older state colleges were originally founded as two-year normal schools (Trenton, William Paterson and Kean in 1855; Montclair in 1908; Glassboro and Jersey City in 1923) supported either by the State or a municipality, and in the 1920s and 1930s became four-year teacher's colleges which offered baccalaureate and master's degree programs in education. The Higher Education Act of 1966 assigned them the broader mission of "providing higher education in the liberal arts and sciences and various professional areas including the science of education and the art of teach-

ing" and, in The 1974 Development Plan for Higher Education in New Jersey, the Board of Higher Education specified that they should continue their transition to multipurpose institutions. The colleges responded to their new mission by recruiting faculty and developing undergraduate curricula in the liberal arts and such professional areas as business, law enforcement, social work, communications, and health. Today less than one-third of their undergraduates are enrolled in teacher education programs, and they offer students a wide choice of programs appropriate to comprehensive undergraduate colleges.

Two new state colleges, Ramapo (1968) and Stockton (1969), were designated specifically as undergraduate liberal arts colleges. In 1972, Thomas A. Edison State College was established as a "college without walls" to serve the adult learner by certifying and awarding college credit for learning attained by formal or informal means.

While their undergraduate mission as multipurpose institutions offering liberal arts and professional programs had been specified clearly, the direction that graduate education should take at the state colleges was left undefined. The six older state colleges had developed a variety of master's degree programs in teacher education which were expanded and multiplied to meet a strong demand during the 1960s when there was a shortage of school teachers. During the early 1970s, as they increased their faculty in liberal arts and professional fields and the demand for teachers lessened, several state colleges developed proposals to offer new graduate programs in professional fields. In April, 1973, the Board of Higher Education ordered that a review of all existing state college graduate programs be conducted, that a ceiling be placed on existing program enrollment, and that strict criteria be applied for the approval of new master's programs.

In 1978 the Board of Higher Education began the redirection of the graduate mission of the state colleges by approving new types of programs at three institutions: Montclair State College, which had been designated as a center for the creative and performing arts, established a Master of Arts in Fine Arts; Jersey City State College discontinued six traditional master's programs in secondary education and created a single interdisciplinary Master of Arts in Urban Education; and Kean College replaced two education programs with a Master of Arts in Liberal Studies based on faculty strengths in disciplinary areas. At the same time, four of the northern state colleges asked that the Department of Higher Education reconsider proposals for graduate programs in business and management. After a feasibility study and considerable discussion, the Board of Higher Education approved a resolution in June, 1979, to accept proposals for a Master of Business Administration program at one or two of the northern state colleges and subsequently approved two programs, one at Montclair and the other at William Paterson. In addition, a Master of Science in Management was approved at Trenton State College in October, 1979.

The Higher Education Act of 1966 intended to "insure diversity of development among the several state colleges" in ways which would be "responsive to particular needs in the several parts of the state," and the 1974

Development Plan urged that "each college should develop its own style, character, and strength, and should explore some areas in greater depth." These continue to be important goals for the next decade. Furthermore, there has been significant progress in recent years towards identifying those academic areas which each institution intends to stress in fulfillment of its mission.

Glassboro State College has continued its traditional commitment to teacher education and has simultaneously developed strong undergraduate programs in the fine and performing arts, the liberal arts, and administrative studies. Service to the public schools, other public agencies and to business and industry complements the instructional program.

Jersey City State College, the only state college located in a large city, concentrates its resources on the development of programs in urban education and criminal justice, exemplified by the establishment of the Master of Arts in Urban Education and the Peter Rodino Institute of Criminal Justice.

Kean College of New Jersey has concentrated on the development of undergraduate career programs, especially in the areas of allied health, human services, and management and administrative sciences. The College is planning graduate programs in public administration and computer science applications in management.

Montclair State College, building on its strong liberal arts tradition and its designation by the Board of Higher Education as a center of influence in the creative and performing arts, is emphasizing its programs in the fine arts, the pure and applied sciences, and business administration.

Ramapo College of New Jersey has developed an approach to undergraduate, liberal and professional education that stresses the interactive nature of contemporary society. Its interdisciplinary programs, supported by a strong artistic and humanistic background, emphasize environmental studies, theoretical and applied science, American and international studies, social science, and administration and business.

Richard Stockton State College, founded as a liberal arts college located near the New Jersey Pinelands and the shore, has committed significant resources to the development of marine science, environmental studies and science in general, and has established a Center for Environmental Research.

Thomas A. Edison College, a non-teaching institution which offers associate and baccalaureate degrees in liberal arts, business and professional fields, recognizes knowledge and skills acquired outside the traditional academic environment. It will continue to concentrate on developing quality testing and assessment procedures for adult learners with an ultimate goal of providing such services for all interested institutions in the State.

Trenton State College has been built upon a strong arts and sciences foundation. Programmatically it stresses service to state and local government, human and health services, the applied sciences and technology, education, business management, and public administration.

William Paterson College of New Jersey has stressed undergraduate career programs, especially in the health fields and business. It has recently created a School of Management and will offer the MBA degree.

The extent of the commitment to develop selected program areas and the final choice of the specific areas varies among the individual state colleges and, in those cases where nearby colleges wish to emphasize the same academic programs, the Board of Higher Education may have to decide which has the greater potential for developing a program of high quality.

The state colleges have been and will continue to be asked to adapt their missions to the changing needs of New Jersey's public. During the next decade, the mission of the state colleges is defined by the following.

1. The state colleges should continue their role as multipurpose institutions and have as a primary goal the maintenance of baccalaureate degree programs in the liberal arts and sciences and professional areas.
2. At the same time, the state colleges should strive to establish distinct identities and build statewide reputations for excellence in selected fields. The individual state colleges should identify and concentrate their resources on the development of a limited number of academic programs in selected fields of existing strength. These efforts should continue to be supported through special program improvement funding.
3. The state colleges should develop a limited number of new master's programs primarily in the professional areas. Such programs should be developed when it can be demonstrated that they meet a need, that they do not needlessly duplicate existing programs in the public or independent sectors, and that the institution has resources sufficient to offer a program of high quality.
4. Doctoral programs should not be offered by the state colleges, and no new Specialist in Education degree programs should be developed until a statewide study of graduate teacher education programs has been completed. (See section on Graduate Education.)
5. While research is not the primary mission of the state colleges, faculties should be encouraged to conduct research in order to enhance their teaching effectiveness within their

disciplines as well as to contribute to the general store of knowledge. The state colleges should maintain the tradition of service to the community, both local and state, through applied research and the sharing of academic resources.

6. The state colleges should expand their services, especially at the upper division and graduate levels, to underserved student populations, particularly older adults. They should work together with community colleges to improve articulation of programs and, within the public sector, should serve as the primary receiving institutions for community college transfer students.

The following are areas of particular concern to the role and mission of the state colleges which are developed in later sections of this Plan:

Undergraduate Enrollments. The state colleges should make special efforts to increase the number of part-time, adult, non-traditional, and transfer students during the next decade. By concentrating resources on the development of selected programs of distinction, they will become more attractive to out-of-state as well as in-state students. For those colleges located away from major concentrations of population, especially Stockton and Ramapo, the construction of new dormitories should be a high priority in order to attract students from a wider geographic area. (See the sections on Admissions Policy.)

Graduate Education. The development of new graduate professional programs should be accompanied by rigorous external reviews of existing graduate programs followed by administrative action to discontinue weak or low priority programs and to concentrate available resources. The apparent existence of unnecessary duplication in graduate teacher education programs among several institutions should be the subject of a special study. (See the sections on Academic Quality and Graduate Education.)

Faculty. The ability of the individual state colleges to develop selective areas of excellence will require institutional flexibility in meeting staffing needs. Basic changes in faculty compensation, recruitment, promotion and tenure are needed to assure this flexibility at the state colleges. Faculty with an interest in and potential for high quality research should be provided with adequate release time and support. (See the section on Faculty Development.)

The Mission of the Community Colleges

The New Jersey system of county community colleges was established by statute in 1962, and the first public county colleges were opened four years later in Atlantic, Cumberland, Middlesex, and Ocean counties. Today there are seventeen institutions offering community college services:

fifteen county community colleges in each of fifteen counties, a county higher education coordinating agency in Union County, and a county community college commission in Hudson County. They enroll nearly 100,000 full-time and part-time students a year and provide access to higher education for a broad range of people who would otherwise be denied the advantages associated with a college education. The average age of students in most community colleges is about 27 years of age and more than half of the students study part-time.

The community colleges should continue to be the low tuition, open access institutions to higher education in New Jersey with a particular obligation to people who are uncertain about their educational interests or abilities and want to explore a variety of occupational and academic programs. They should provide academic programs equivalent to the first two years of the baccalaureate, provide post-high school occupational and vocational programs of shorter duration than baccalaureate programs, and provide a major part of the State system's part-time undergraduate and general interest education programs. They should serve their communities with various academic programs closely related to the needs of the local community, together with enriching the communities' cultural life through short courses, special programs, and a variety of formal and informal educational offerings. Their special focus should be on academic transfer programs, career or occupational programs, remediation and basic skills, adult and continuing education, career counseling, public and community service, and teaching rather than research.

The community colleges should be the major providers of technical manpower in the State. By providing occupational and vocational programs, the community colleges increase the employment opportunities of the residents of their counties and contribute to the improvement of the New Jersey economy. A supply of well educated and competent technicians will aid industries currently located in New Jersey and will assist in attracting industry to our State.

The community colleges also should provide an avenue for the completion of the lower division portion of the liberal arts curriculum through transfer programs for students who might not otherwise be able to enroll in the senior colleges.

Finally, the community colleges have a primary role in the provision of such offerings as part-time, evening or weekend, and off-campus courses for nontraditional students including employed persons, women returning to work, the aged population, the handicapped, and persons incarcerated or institutionalized.

In March, 1979, a special commission to Study the Mission, Financing, and Governance of the County Colleges in New Jersey published its report, Excellence and the Open Door: An Essential Partnership. The report of the Commission was endorsed by the Council of County Colleges and, on June 15, 1979, the Board of Higher Education adopted the following statement of the roles and missions of the community colleges of New Jersey, which includes most of the major recommendations of the Commission.

1. Community colleges are the open door to higher education in New Jersey. In public higher education this mission shall be reserved for the county community colleges. These institutions have a responsibility to admit to an occupational, academic, or remedial program any motivated person who has the potential to benefit from post-secondary education and is a high school graduate or holds a high school equivalency diploma, or, if not in high school, is eighteen years of age or older.
2. To implement the concept of open access, which has as a goal the extension of post-secondary educational opportunities to every citizen of the State, the community colleges are required to offer a broad range of educational programs.
3. Meeting the educational needs of a wide variety of people requires the community colleges to have a comprehensive mission focusing on academic transfer programs, career or occupational programs, remediation and basic skills, adult and continuing education, counseling programs, and community services. In general, in the public system, the associate degree should be limited to the community colleges.
4. To enroll a heterogeneous student population in a variety of educational programs and, at the same time insure academic quality, requires the community colleges to provide comprehensive remedial and developmental programs to permit underprepared students to gain competencies in the basic skill areas of reading, writing, and mathematics.
5. As the only sector of higher education committed to open access, community college tuition should remain low so that it does not become a barrier to attendance.
6. Community colleges have a duty to play a role in enhancing the social, recreational, and cultural life of their communities by offering short courses, special programs, and a variety of informal and formal educational offerings and by encouraging community use of college facilities.
7. As a way of extending educational opportunities to all State residents, especially working adults and homemakers, the community colleges should continue to provide the major portion of the state higher education system's part-time undergraduate and general interest education programs.

Future Directions for the Community Colleges

The decade of the eighties will present exciting but demanding challenges to the community colleges of New Jersey as they carry out their missions. Over the last ten years, the community col-

lege system expanded rapidly. During this time, growth was the dominant theme and, as community colleges became established, they began to serve vast numbers of students.

In the eighties, social and technological change will present new kinds of challenges to the community colleges as they strive to promote access, respond to educational needs, and maintain standards of excellence.

There is and will continue to be a growing student demand for occupational education and a growing need on the part of business and industry for a skilled workforce. Given the dynamics of social and technical change, occupational education is a crucial area, and community colleges should explore the further development of credit and non-credit occupational programs. Because of the relatively high costs of mounting high technology programs, consideration should be given to developing increased cooperative ventures with the industrial sector, including cooperative education programs. Also, community colleges should explore the feasibility of offering certain occupational programs on a regional basis. The selective location of an instructional program based on institutional resources, availability of students from nearby counties, and the manpower needs of the region or State will promote economy and broaden access.

The concept of open access to community colleges includes physical access. Given the absence of extensive public transportation systems in many areas, community colleges should consider establishing satellite centers for the delivery of programs and services. Where feasible, cooperative arrangements with colleges and universities and other providers of educational services should be developed. In this manner, a broader range of educational services will be available to local communities, and facilities and academic programs will not be unnecessarily duplicated.

Some students live or work in an area which is near a community college located in a county other than the one in which they live. Serious thought should be given to developing a strategy to permit students to attend the closest community college without having to pay higher out-of-county tuition rates.

Community colleges have been and will continue to be faced with the challenge of assisting their students in making appropriate and realistic career choices. As vocational interests become more diverse and as community colleges increase the range of available program offerings, care must be taken to insure that counseling programs include effective career guidance and planning services. Such services should be made available to part-time and off-campus students. If there is a community need for career and educational counseling because of high unemployment or other factors, community colleges should strive to make career guidance and planning services available to all county residents.

Community colleges should address the issue of the under-representation of women and minorities in many occupational and technical curricula and commit resources to career counseling and developmental programs to overcome the discrepancies in enrollment patterns for these groups. As community colleges respond to the need to develop more occupational programs, attention must be paid to the potential problem of inhibiting some segments of the population from taking advantage of the opportunity for access to higher education.

To meet the challenge of being responsive to community needs, community colleges should initiate county needs analyses and offer efficient and effective educational programs and services to address the needs that have been identified.

Perhaps the most crucial challenge to be met by the community colleges over the next decade is the maintenance of standards of excellence. The delivery of high quality programs by community colleges requires entrance and progress standards, effective remedial and developmental instruction, and reliable statistics and research on which to base judgments. Entrance requirements to degree programs should include criteria which are objective and consistently applied and relate to the skills and knowledge necessary for success. When students cannot demonstrate mastery of the requisite basic skills needed to benefit from exposure to college level courses, they should be given the opportunity to develop these skills in appropriate remedial or developmental programs. While progress standards must be reasonable, it is incumbent upon community colleges to assist students in realistically assessing their likelihood of achieving the desired goal of obtaining a degree or certificate.

Data regarding the effectiveness of instructional strategies are necessary for the establishment of educational standards. Community colleges should develop data collection systems which would collect and analyze such data as instructional enrollment patterns, faculty grading practices, student persistence, and student exit information. Also, longitudinal studies on the impact a community college education has on the lives of graduates should be undertaken.

Achievement of the goal to attain academic excellence depends primarily on the strength and dedication of faculty and administrators. Formal staff development and in-service training programs should be offered by community colleges to provide their professional employees the opportunity to renew and upgrade their skills.

The mission statement adopted by the Board of Higher Education includes the recommendations of the Task Force on Programmatic Mission Differentiation. Issues concerning access, transfer articulation, and vocational education which are of particular concern to the community colleges are de-

veloped further in the sections of this Plan on Admissions Policy and Vocational Education.

The Mission of the New Jersey Institute of Technology

The Institute traces its origins to the Newark Technical School, founded in 1881 as a publicly supported school to advance the skills of artisans and mechanics employed in Newark. There followed a succession of names as the mission extended to advanced degrees and to new fields: College of Engineering of the Newark Technical School (1920); The College of Engineering, Newark (1927); Newark College of Engineering (1930); and New Jersey Institute of Technology (1975). In its evolution to a technological university, the Institute has developed an extensive graduate program at the master's professional and doctoral degree levels along with a growing program of research. Current enrollment numbers some 5,700 full and part-time, undergraduate and graduate students pursuing degrees in the major fields of engineering, engineering technology, architecture, computer science, industrial administration, management, and applied science.

Today, the New Jersey Institute of Technology is composed of the Newark College of Engineering comprising five engineering departments; the New Jersey School of Architecture; and several individual departments, including Computer and Information Science, Mathematics, Physics, Organization and Social Sciences, and Humanities. The Division of Technology is responsible for coordination of baccalaureate programs in Engineering Technology and certificate programs in Technology. The Division of Continuing Education offers courses to professionals in mid-career with objectives differing from those of the traditional college student.

As New Jersey's only public institution devoted primarily to advanced instruction and research in the applied sciences and technology, NJIT has a special responsibility to provide technical services and assistance to State and local government agencies and the industrial community by providing training programs and undertaking research applied to New Jersey's needs. It has a unique opportunity to expand its service to women and minorities who have long been under-represented in the professional fields of engineering, science and architecture. The Institute has already developed pre-college programs to attract highly motivated urban youths to enter the technological professions. As a further step, programs of articulation should be established with community colleges which would guarantee admission through transfer to any students who have successfully completed a prescribed two-year program equivalent to NJIT's core curriculum.

NJIT's location adjacent to the Newark campus of Rutgers University has led to the development of some joint programs and sharing of resources and faculties. Building upon existing cross-registration of students, the two institutions should continue to increase their cooperative planning with the goal of enhancing coordination particularly in the basic sciences, humanities, and social sciences. Such cooperation will allow both institutions to employ their faculties and facilities more effectively and provide opportunities for each to concentrate resources on their respective areas of strength.

The mission of the New Jersey Institute of Technology is defined in the following ways:

1. The New Jersey Institute of Technology should offer undergraduate and graduate programs in Architecture, Engineering, Engineering Technology, Applied Sciences, Management Sciences (in conjunction with Rutgers University at the doctoral level), Industrial Administration, and related professional fields.
2. NJIT should offer practitioners in the industrial community the opportunity to pursue part-time evening degree programs from the baccalaureate through the master's to the doctoral degree.
3. Programs in Architecture should be offered solely by NJIT in the public sector with the exception of the program in Landscape Architecture offered by Rutgers.
4. NJIT should assume a leadership role in continuing technical/professional education with courses ranging from state-of-the-art offerings in new fields to more formal certification programs for State or municipal licensure.
5. NJIT should provide public service and engage in programs of research which are primarily for, but not limited to, applications orientation, with a special emphasis on the interaction between technology and society.
6. NJIT should not offer associate degree programs.
7. NJIT should offer the upper division segment of baccalaureate programs in engineering technology at community colleges in central and southern parts of the State which have articulating lower division programs.

The Mission of the College of Medicine and Dentistry of New Jersey

The College of Medicine and Dentistry of New Jersey (CMDNJ) was founded in 1970 with the three-fold mission of teaching, research, and patient care.

It fulfills its teaching responsibility as the only institution charged with the training of physicians in the State and the only public institution in the State which trains dentists. Through its School of Allied Health Professions, it also engages in joint programs with degree-granting colleges in areas of allied health education. In order to carry out these functions, the CMDNJ is comprised of three medical schools, two of them allopathic (M.D.) and one osteopathic (D.O.), a dental school, a graduate school of biomedical sciences, and a school of allied health. The programs are based in Newark, Piscataway, New Brunswick and Camden.

The CMDNJ's broad responsibilities also include contributing to the advancement of the scientific knowledge which underlies health processes and health care. Primarily through the Graduate School of Biomedical Sciences, graduate programs offered by the College recognize its mandate to develop new knowledge in the biomedical sciences and to educate individuals at the doctoral and post-doctoral levels so that they may pursue this knowledge as researchers and transmit it as teachers.

The CMDNJ's patient care mission is intimately connected to its teaching mission within the philosophy of medical and dental education which stands for the integration of theoretical concepts and clinical applications. Furthermore, as the major repository of medical and dental education talent in the State, the CMDNJ has a commitment to provide the best possible resources to the health care needs of the citizens of the State, particularly those in underserved areas including the State's inner cities, and to serve as a standard of excellence for the general health professions community. To carry out this mission, the CMDNJ operates the new 530 bed College Hospital in Newark that serves both as a community health care resource and as a teaching facility. The College Hospital also serves as an affirmation of the CMDNJ's continuing commitment to fulfill its purposes as determined in consultation with the Newark community and contained in the Newark Agreements of 1968. In addition to its wholly owned hospital facilities, the College also is affiliated for teaching purposes with a number of teaching community hospitals throughout the State. The CMDNJ has initiated major affiliation agreements with Middlesex General Hospital in New Brunswick, John F. Kennedy Hospital in Stratford, and Cooper Medical Center in Camden. Respectively, these hospitals will serve as core teaching facilities for Rutgers Medical School, the New Jersey School of Osteopathic Medicine, and the Rutgers Medical School, Camden.

The CMDNJ also shares responsibility for allied health professions education with two and four year colleges throughout the State. In addition to the administration of CMDNJ's own hospital-based certificate programs, the School of Allied Health Professions was established to create a core of administrative, curriculum planning, and instructional services at CMDNJ aimed at maximizing regional coordination and sharing of resources through the development of joint programs with other collegiate institutions. The concept of cooperative arrangements between CMDNJ and two and four year colleges was developed to avoid duplication and fragmentation of educational effort, to foster the creation of educational programs that permit upward and lateral career mobility, and to use the clinical resources at CMDNJ more efficiently by offering joint programs in the health professions.

As the State's only public medical and dental school, the CMDNJ should carry out its mission in the following ways.

1. The College should continue to provide programs for the professional education of physicians and dentists and should offer first professional degrees in medicine and dentistry.
2. It should continue to provide, through its Graduate School of Biomedical Sciences, graduate and postgraduate programs

focused on human medicine. CMDNJ and Rutgers University should continue their joint degree programs and should develop formal agreements defining the relationship between programs conducted by the respective institutions in related fields, particularly those offered in the Newark area, with a view toward avoiding duplication of efforts and sharing resources.

3. The CMDNJ should continue its programs of continuing education for physicians, dentists, and allied health professionals except in the areas of pharmacy and social work.
4. It should continue to assume its role as a major center for research in the biomedical sciences and, as such, should aggressively seek outside funds for the support of such research and for the recruitment of outstanding scientists.
5. The College should continue to recognize its position as a major provider of health care in areas of need, including the development of tertiary referral centers, and its commitment to the training of practitioners, particularly in primary care fields.
6. The CMDNJ should continue to offer programs of education and training in selected allied health professions as outlined by the Health Professions Education Master Plan of the State of New Jersey. This should be accomplished primarily through joint programs with two and four year colleges and general university campuses in the State.
7. The CMDNJ should not, itself, offer undergraduate degree programs.

The Role of the Independent Institutions of Higher Education

There are twenty-five independent degree-granting institutions of higher education in New Jersey, offering programs ranging from the associate degree through the first professional and doctoral degrees. Among them are highly selective institutions, small residential liberal arts colleges, large multipurpose universities with professional schools, women's colleges, specialized institutions concentrating on a few disciplines, and institutions focusing on religious education. As such, the independent institutions contribute important elements of diversity and choice to New Jersey's system of higher education.

The accompanying table on page 40 provides an overview of the independent institutions grouped according to the Carnegie classification of higher education institutions. They include the following:

1. One research university, Princeton University, that offers a large array of doctoral programs and attracts a national constituency.

2. Four comprehensive universities and colleges that provide a full complement of undergraduate and master's programs, primarily to New Jersey residents. These are Fairleigh Dickinson University, Monmouth College, Rider College, and Seton Hall University. Fairleigh Dickinson and Seton Hall also offer doctoral and first professional degree programs.
3. Nine liberal arts colleges which offer, for the most part, undergraduate programs. Drew University is the major exception having doctoral programs in Theology and Letters. This group of institutions primarily serves New Jersey residents and varies widely in size, the largest being Saint Peter's College with over 4,000 undergraduate students.
4. Two specialized institutions, Stevens Institute of Technology and Westminster Choir College, which offer undergraduate and graduate programs. Westminster Choir College, one of the smallest colleges in New Jersey, attracts a majority of its students from other states.
5. Nine institutions have the education of religious professionals as their primary mission. Most students at these institutions come from outside New Jersey, with Beth Medrash Govoha attracting scholars from all over the world.

While the Board of Higher Education has licensing authority with respect to the independent colleges and universities, these are autonomous institutions governed by individual boards of trustees. Student tuition is their major source of income and is supplemented by private donations and, in the case of those institutions with a public mission, a limited amount of State funding based on the number of enrolled students who are New Jersey residents. This public support is provided in recognition of the significant contribution of the independent institutions to the educational needs and cultural life of New Jersey.

As stated in The 1974 Development Plan for Higher Education in New Jersey, it is through the diversity of sponsorship, purposes, programs, environment, and size that the independent institutions provide students with a variety of options essential to freedom of choice in higher education. So that the independent institutions may continue this important role, the following considerations should be recognized.

1. Each independent institution should maintain its individual and distinctive character.
2. Statewide higher education planning efforts should take into account the importance of the independent sector by continuing to provide support particularly for those institutions which share with the public institutions a public mission. Such State support should consist of direct funding of eligible institutions, according to the number of New Jersey

citizens enrolled, and indirect support through student aid, which is applied at all colleges with a public mission.

3. The State should continue to provide New Jersey residents, regardless of socioeconomic status, a reasonable opportunity to attend independent institutions by maintaining an even-handed fiscal policy with respect to the public and independent sectors to insure that independent institutions have the chance to compete. However, the State's support of individual independent institutions over which it has no budgetary responsibility does not extend to the provision of funds to those institutions whose own sources of revenue are insufficient to assure their continued operation. Further, it is not appropriate for the State artificially to restrict access to programs in the public sector as a means of reducing competition with the independent sector.
4. The independent institutions receiving State support should be accountable for the educational and fiscal integrity of their programs, but in ways that are consistent with their independence and autonomy.

Interinstitutional Cooperation

In order to promote the most effective use of resources for higher education in New Jersey, the Board of Higher Education has encouraged and will continue to support cooperative efforts among institutions and the sharing of institutional resources. A recent informal survey revealed that many such arrangements already have been developed, including over forty cooperative degree programs and many special articulation agreements, cross registration opportunities, joint research programs, and cooperative use of libraries and services. It is encouraging to note that cooperative arrangements exist not only among the public institutions but also between public and independent institutions and between institutions in New Jersey and those in other states.

During the next decade, institutions should continue to explore, and the Department of Higher Education should continue to encourage, interinstitutional cooperation in current and future program development including joint degree programs, cooperative degree arrangements, special articulation arrangements, cross-registration, joint faculty appointments, research cooperation, physical plant sharing, library cooperation, and other types of cooperation. Cooperation and coordination of programs will be especially important in the costly areas of education in health professions, technological areas, engineering, and biomedical sciences. In these areas the following are recommended.

1. Within the public sector, any programs in engineering contemplated for southern New Jersey should result from the cooperative efforts of the New Jersey Institute of Technology and Rutgers University.

2. In the graduate biomedical sciences, the current division of responsibility between Rutgers and CMDNJ should be maintained, with increased efforts at cooperation between the two faculties to be based on a formal agreement. In New Brunswick, the primary location of graduate programs should be at the University; in Newark, it should be at CMDNJ.
3. The future development of high-cost technology programs at the community colleges should be based on a policy of regionalization and cooperation with other institutions providing similar programs. (See the section on Vocational Education.)
4. The future development of programs of education for the health professions should be based on a policy that considers program cost, statewide and regional manpower requirements, appropriate regionalization, cooperation with other institutions and agencies, sharing of resources, and student demand.

NEW JERSEY'S INDEPENDENT
INSTITUTIONS OF HIGHER EDUCATION

<u>Institutions</u>	<u>Sponsor- ship</u>	<u>Students Served</u>	<u>Academic Program</u>	<u>Enroll- ments</u>	<u>FTU- %NJ</u>
<u>Research University</u>					
Princeton	I	C	BG	3	17
<u>Comprehensive Uni- versities & Colleges</u>					
Fairleigh Dickinson	I	C	ABG	3	81
Monmouth	I	C	ABG	2	89
Rider	I	C	ABG	3	80
Seton Hall	RC	C	BG	3	95
<u>Liberal Arts Colleges</u>					
Bloomfield	P	C	B	2	96
Caldwell	RC	F	B	1	92
Centenary	I	F	AB	1	61
College of St. Elizabeth	RC	F	B	1	88
Drew	M	C	BG	2	57
Felician	RC	F	AB	1	99
Georgian Court	RC	F	BG	2	93
St. Peter's	RC	C	AB	2	93
Upsala	L	C	BG	2	90
<u>Specialized Institutions</u>					
Stevens	I	C	BG	2	72
Westminster	I	C	BG	1	35
<u>Theological & Others</u>					
Assumption	RC	F	A	1	41
Beth Medrash Govoha	J	M	BG	1	4
Don Bosco	RC	M	B	1	39
Immaculate Conception	RC	C	G	1	na
New Brunswick Theol.	RCA	C	G	1	na
Northeastern Bible	ID	C	AB	1	67
Princeton Theol.	P	C	G	1	na
Rabbinical College of America	J	M	B	1	19
St. Michael's	RC	M	G	1	na

KEY: Sponsorship-

I-Independent; RC-Roman Catholic; P-Presbyterian; M-Methodist; L-Lutheran; RCA-Reformed Church in America; ID-Inter-denominational; J-Jewish

Students Served -

C-Coed; F-Female (evening enrollment may be coeducational); M-Male

Academic Programs -

A-Associate Degree Programs; B-Baccalaureate Degree Programs; G-Graduate Degree Programs

Enrollments -

(As of Fall 1978: Total undergraduate and graduate headcount) - (1)-Under 1,000; (2)-1,000 to 4,999; (3)-5,000 or more

FTU % NJ -

(As of Fall 1978: Full-time undergraduate percent New Jersey enrollment as a percent of total undergraduate enrollment)

CHAPTER FOUR

ENROLLMENT GOALS AND PROJECTIONS

In New Jersey the Board of Higher Education is vested with the responsibility for planning adequate capacity for college enrollments, both overall and within broad institutional sectors. The preceding chapter identified a series of policies that bear significantly upon the enrollment capacity required in the State, including: access to post-secondary education for all qualified residents of the State; reduction of economic barriers to higher education; and a strengthened role for the educational opportunity programs to assure equal opportunity and a balanced capacity among institutions to meet the diverse needs of the student population.

Planning for future enrollments involves more than a numerical projection of demographic trends and historical enrollment patterns. Enrollment projections and goals are based on three principal determinants: the policy goals of the Board of Higher Education for access, admission and quality; the number of students who can reasonably be expected to seek admission to New Jersey's institutions of higher education in the decade ahead; and the enrollment capacity of each institution according to the institution's mission within the system. This chapter presents Statewide enrollment goals and projections; admission policies and enrollment goals for each public sector will be discussed in the next chapter.

Undergraduate Enrollment Goals

The development of a comprehensive policy of undergraduate enrollment goals requires a careful assessment of the current size and composition of the student body in New Jersey's colleges, making certain assumptions about the future, and establishing specific objectives in six areas of concern: the proportion of high school graduates who go on to college; the outmigration of New Jersey residents to colleges in other states; the enrollment of out-of-state students in New Jersey; student retention rates; the enrollment of older students; and the enrollment of transfer students.

The Proportion of High School Graduates Going To College

About 52% of New Jersey's public high school graduates now go on to college immediately after high school, either in New Jersey or at institutions in other states. Rising career expectations and changing requirements for job entry make it likely that there will be small but continuous increases in the proportion of high school graduates who seek higher education in the future. It appears reasonable to adopt a goal of 55% of the public high school graduates who go on to college in 1990.

It is possible that significant efforts in elementary and secondary schools to improve the basic skills of students may increase the

proportion of high school students persisting to graduation and, by implication, increase the pool of potential college applicants. If, for example, the urban high schools with large numbers of students who drop out were to increase their retention rate to the State-wide average, the number of high school graduates would be considerably higher than the number used in the projections herein. However, the current trends in basic skills tests and recent proposals by the Department of Education to raise the standards for high school graduation make it unlikely that any significant increases in the projected number of high school graduates will take place.

The Role of Out-of-State Institutions in Meeting Higher Education Needs

In earlier years, New Jersey residents were forced to seek higher education in other states because New Jersey's public institutions were inadequately funded to provide places to meet fully the needs of New Jersey residents. Although this is no longer true today, 40% of New Jersey residents who attend college still enroll in out-of-state institutions. A variety of reasons explain this choice, including: the traditional college-going patterns of New Jersey residents who work in neighboring states; the geographical convenience of institutions in New York and Pennsylvania to many New Jersey communities; the high per capita income in the State that permits many families to afford to send their children to private colleges in other states; the lack of adequate residential facilities at New Jersey's public colleges; the perception that selective out-of-state institutions offer a better education; and the common desire of young people simply to experience a change of scene.

All these factors will continue to influence student choice to attend out-of-state institutions in the future. However, many of the recommendations in this Plan, if carried out, should increase the number of New Jersey residents who will find that their needs are best met at New Jersey colleges. Especially important are the recommendations to improve student services and facilities, to differentiate admission policies and concentrate resources on the development of special programmatic missions, and to enhance the perceived reputations of our colleges through systematic efforts to improve academic program quality. Among the goals of this Plan is a reduction in the proportion of New Jersey college-bound high school graduates who attend college in other states from an estimated 40% to 35% by 1990.

Attracting Out-of-State Students to New Jersey Institutions

During the previous decade New Jersey public institutions were discouraged from recruiting students from other states because

of their limited ability to meet the demand for higher education here and, as a result, have given little or no attention to recruiting out-of-state students. The state colleges, for example, draw only two per cent of their students from outside New Jersey, and Rutgers University attracts only five per cent.

In contrast, colleges in other states have extensive and effective recruitment programs in New Jersey and have been highly successful in attracting recent New Jersey high school graduates. As the number of high school graduates declines nationally in the next decade, these colleges can be expected to intensify their recruitment activities in New Jersey.

Because there are sound educational and management reasons for New Jersey's institutions to increase the number of out-of-state students on their campuses, the Department of Higher Education should develop a region-wide program to make visible the opportunities for higher education in the State. Public institutions should initiate out-of-state recruitment efforts, coordinated as much as possible by institutions that share similar missions or geographical locations.

Rutgers University should be encouraged to expand the proportion of out-of-state freshmen in New Brunswick to 12% by 1985 and to 15% by the end of the decade; the state colleges should be encouraged toward a proportion of five per cent by 1985. Independent colleges and universities with less than 25% out-of-state students are encouraged to attract an additional five per cent of out-of-state residents without reducing their enrollment of New Jersey students.

The Retention of Students

That student attrition tends to rise as institutions enroll higher proportions of students whose potential may not be adequately measured by traditional admissions criteria, is a problem inherent to increased access. It is a matter of serious concern that some institutions in the State, which have admitted students whose preparation for college level work is inadequate, have failed to provide support services and remedial programs sufficient to assure these students the opportunity to overcome the deficiencies in their preparation and to attain a level of skills necessary for successful academic performance. Failure to provide remedial instruction and supportive services is harmful to both students and institutions.

Through a systematic effort to improve student support services, a greater attention to remedial programs, and the implementation of the recommendations in the section on basic skills, institutions should strive to increase the proportion of freshmen who successfully complete their undergraduate education and are awarded

degrees. As a Statewide goal for 1990, the public institutions should try to increase their student retention rate by six percentage points.

The Enrollment of Transfer Students

For many students, the very meaning of access to higher education and equal opportunity depends upon their ability to enroll initially in community college programs and to transfer the credits earned there to four-year colleges offering the baccalaureate degree.

The advent and rapid growth of community colleges increased the need to develop sound Statewide policies governing "transfer articulation" or program articulation and transferability of credits between two and four-year colleges. The Board of Higher Education responded to the need for improved transfer articulation in 1973 when it adopted the "Full-Faith-and-Credit" policy which still remains in effect. By attempting to remove artificial barriers to transfer and to improve articulation, the Board took a major step in the direction of easing the process of transfer for the increasing number of New Jersey students who wished to do so. Unfortunately, confusion still exists in the respective college sectors with respect to the meaning of the Full-Faith-and-Credit policy, and disagreement persists as to whether or not the Board's policy has been effective in providing access to four-year colleges for qualified two-year college graduates.

The chapter on Admission Policies recommends a number of important changes designed to ease the transfer process by removing unnecessary barriers, by providing better service to transfer applicants, and by improving program articulation. A major effort to expand the number of program articulation agreements between two-year and four-year institutions not only would improve the transfer process by insuring that students had taken the prerequisite courses for entering the upper division programs of their choice, but also would increase the success of recruitment efforts by building permanent transfer channels among institutions.

In the fall of 1979, the State's four-year institutions enrolled approximately 7,000 transfer students from New Jersey two-year colleges or from colleges in other states, many of whom were returning New Jersey residents. This number should increase 15% by 1985, so that the four-year institutions will enroll about 8,000 transfer students from out-of-state institutions or two-year colleges in New Jersey.

The Enrollment of Older Students

Higher education has a major opportunity in the next decade to

provide educational services to adults older than the traditional 18-21 year old group. Even if the proportion of adults in the population who participate in higher education remains unchanged, the number of adults who may be expected to attend college will continue to grow because the total adult population of New Jersey is projected to increase every year during the next decade. Moreover, estimates indicate that one third of the adult population will make major career changes during the next decade which often will require additional training through higher education.

Successful recruitment of older students requires that colleges adjust programs to the needs and convenience of working adults who will attend as part-time evening students. Adult needs require the development of new instructional techniques, more flexible scheduling, and different criteria for admission and financial aid eligibility. Recommendations in the chapters on admission policies, financial aid, and lifelong education address these issues.

In 1979, 70% of all undergraduates over age twenty-four in the public institutions of higher education in New Jersey were enrolled as part-time students in the community colleges and state colleges, a pattern which reflects the mission of these institutions to serve older part-time students. The community colleges should try to increase the number of part-time students from 106 per 10,000 New Jersey residents over age fifteen in 1979 to 115 per 10,000 by 1985; the state colleges should try to increase the enrollment of these students from 40 per 10,000 residents over age fifteen in 1979 to 45 per 10,000 by 1985.

Statewide Enrollment Projections and Goals

The enrollment projections developed for this Plan represent the best available estimate of the probable range of the number of undergraduate and graduate students the New Jersey system of higher education can reasonably expect to enroll during the next decade. The enrollment projections are based on projections of the New Jersey population and the number of New Jersey high school graduates during the next decade, as well as on assumptions about the future enrollment patterns in our colleges.

Three alternative series were prepared to generate "low," "baseline," and "high" enrollment projections. All three series use the same assumption about the potential supply of students, based on underlying demographic trends; they differ, however, in their assumptions about the future demand for higher education at New Jersey institutions. The outcomes of

¹See Appendix B for a description of the projection methodology.

the projection series depend entirely on the assumptions upon which they are based and represent no more than informed judgments about the future if those assumptions turn out to be correct.

The high series of enrollment projections are based on the assumption that all the goals discussed above are achieved: that the college-going rate is increased; that the proportion of New Jersey students attending college in other states is reduced; that more out-of-state students are attracted to New Jersey colleges; that student retention rates are raised; that the proportion of the adult population enrolling as part-time students is increased; and that the transfer process is improved. Achievement of these goals will generate enrollment levels which are possible if the goals for the New Jersey system of higher education are successfully pursued and attained. In this sense the high series of projections represent the enrollment goals for the next decade. Although these goals may not be easy to achieve, the implementation of the policies recommended in this Plan, combined with sustained efforts by individual institutions and the Department of Higher Education to make the system more attractive and responsive to student needs, should put them within our reach.

The low series of enrollment projections assumes that student demand will decrease and the college-going rate of high school graduates in New Jersey will decline in the future, either because of a change in attitude toward higher education or because of an increase in the proportion of students who attend out-of-state institutions. Colleges in other states, which also are experiencing declining enrollments, will undoubtedly pursue more aggressive recruitment efforts in New Jersey which has traditionally been a major source of students. The low projections assume that New Jersey institutions will not respond successfully to this increased competition for full-time students.

The baseline projection series assumes that the college-going rate of high school graduates, the college-participation rate of the adult population, student retention, and all the other relevant factors will continue unchanged into the future at their average level over the last few years. It assumes no significant changes in student demand for higher education in New Jersey except for enrollment changes resulting from the underlying demographic trends. Until there is evidence of progress towards our goals or evidence of a declining college-going rate, the baseline series of enrollment projections represents the appropriate series for planning purposes.

The low and the high projection series provide a likely range of possibilities for New Jersey's college enrollments over the next decade, while the baseline series provides an intermediate projection which represents a continuation of present trends. It is possible that there will be major social or economic changes which will drastically change the attitude toward and the demand for higher education. Surely there will be some unanticipated events which will cause short term fluctuations. Even as this Plan is being discussed, some colleges are adopting higher admission standards, opening new dormitories, initiating stronger recruitment efforts, and establishing new programs, the effects of which on enrollments are not and cannot be adequately projected at this time. The enrollment projections

presented here represent our best estimates based on current conditions and the most recent information. They must periodically be updated and compared to the actual situation in our colleges as conditions change and new information becomes available.

Undergraduate Enrollments

The projections for first-time full-time freshmen (Table 1) are closely related to the projected changes in the number of New Jersey high school graduates, who make up the largest proportion of this group. The baseline planning projection estimates that the number of freshmen will decline about 10% by 1985 and 23% by 1990 as a result of demographic changes alone. If the college-going rate of high school graduates decreases, the low series projects a decline of about 15% in each of the next five year periods. These are Statewide averages, however, which do not reflect the substantial difference in the projected trend between two-year and four-year colleges. (See Chapter 5 for projections of each sector.) The high series assumes that the college-going rate will increase, that more New Jersey students will go to New Jersey institutions, and that there will be an increase in the proportion of out-of-state students in the freshman class. Even if all these goals are achieved, the number of freshmen may fall five per cent below the current level by 1985 and may fall 16% by 1990.

Table 1

New Jersey Statewide Enrollment Projections: First-Time Full-Time Freshmen

<u>Academic Year</u>	<u>Low</u>	<u>Baseline</u>	<u>High (Goal)</u>
1979-80	45,400	45,400	45,400
1985-86	39,200	40,600	43,200
1990-91	33,400	35,100	37,900

Percentage Change

1979-85	-14%	-10%	- 5%
1985-90	-15%	-14%	-12%
1979-90	-26%	-23%	-16%

It is important for institutions planning their freshman enrollments to anticipate that the decline in the number of high school graduates is unlikely to be either gradual or continuous, but might occur as a series of abrupt declines in certain years. Starting in the spring of 1983, a nearly five per cent drop in the number of high school graduates is projected each year for four years until the spring of 1986. The three years of stability or even small increases between 1986 and 1988 may be followed by declines of five per cent in 1989, 11% in 1990, and 9% in 1991 before the next period of stability. (See Table 1, Appendix B for the projections of high school graduates.) Efforts to mitigate the full effect of these declines on freshman enrollments should begin now, by actively working with local high schools to sharpen the career aspirations, the academic preparation, and the motivation of students to continue their educations.

The projections of full-time undergraduates (Table 2) reflect the cumulative effect of the smaller freshman classes of the previous years, so that the greatest possible decline is projected to take place during the second half of the decade; actions taken now, however, might lessen the impact of this decline. The high series suggests that full-time undergraduate enrollments may decline by only one per cent below the current level by 1985 if the enrollment goals are achieved. This will require higher student retention rates and higher enrollments of transfer students as well as the increases in the college-going rate of high school graduates noted above.

Table 2

New Jersey Statewide Enrollment Projections:
Full-Time Undergraduates

<u>Academic Year</u>	<u>Low</u>	<u>Baseline</u>	<u>High (Goal)</u>
1979-80	153,000 _a	153,000	153,000
1985-86	137,000	140,000	153,000
1990-91	118,000	123,000	139,000

Percentage Change

1979-85	-10%	- 8%	0%
1985-90	-14%	-12%	- 8%
1979-90	-23%	-20%	- 8%

Projections for part-time undergraduates (Table 3) were calculated as a percentage of the adult population, projected by county, which could be expected to attend college in the future. The low projections assume a small decrease in the college participation rate of adults, the baseline projections assume a continuation of the current rate, and the high projections assume about 10% increase in the proportion of the adult population attending the state colleges and the community colleges as part-time students by 1985.

The baseline series reflects the fact that, even if the proportion of the adult population that attends college part-time (the college participation rate) does not change, the projected increase in the size of the adult population of New Jersey will result in an 8% increase in part-time students by 1985 and a five per cent increase by 1990. If all our goals are attained, it is possible that there may be a 15% increase in part-time students over the next five years. It should be understood, however, that the projections for part-time enrollments are highly uncertain and will depend on economic and social changes affecting the demand for higher education as well as on the colleges' abilities to expand their services to meet the needs of new types of students.

Table 3

New Jersey Statewide Enrollment Projections:
Part-Time Undergraduates*

<u>Academic Year</u>	<u>Low</u>	<u>Baseline</u>	<u>High (Goal)</u>
1979-80	112,000	112,000	112,000
1985-86	119,000	120,000	129,000
1990-91	124,000	126,000	135,000

Percentage Change

1979-85	+ 6%	+ 8%	+15%
1985-90	+ 4%	+ 5%	+ 5%
1979-90	+11%	+13%	+20%

*Including Thomas A. Edison State College

The net effect of the projected decline in full-time undergraduates and the projected increase in part-time undergraduates, under any of the three sets of assumptions, may be measured

in two ways: by full-time equivalent students and by total head-count. The total number of full-time equivalent (FTE) students (Table 4) projected for the system is calculated by adding the projections for the total number of full-time students and one-third of the part-time students, adjusted for each public sector to approximate the FTE used for budget purposes. The FTE student projections indicate the general trends which may be anticipated in those areas currently determined by the FTE enrollments, such as funding for instruction.²

If all enrollment goals are achieved, the FTE enrollment projected for 1985 and 1990 in the high series will remain within three per cent of the 1979 level. There is a small increase projected for the first half of the next decade in the high series, but it is followed by a larger decrease in the second half of the decade. It seems prudent that the New Jersey system of higher education should not anticipate or plan for any significant long-term growth in faculty or instructional activities during the next decade, even if all the goals of this Plan are actively pursued and successfully reached. If there is no progress toward our goals, on the other hand, the system can anticipate at least a five per cent decline in FTE students by 1985 and a 13% decline by 1990.

Table 4

New Jersey Statewide Enrollment Projections:
FTE Undergraduates (Adjusted)*

<u>Academic Year</u>	<u>Low</u>	<u>Baseline</u>	<u>High (Goal)</u>
1979-80	200,000	200,000	200,000
1985-86	186,000	190,000	206,000
1990-91	168,000	174,000	196,000

Percentage Change

1979-85	- 7%	- 5%	+ 3%
1985-90	-10%	- 8%	- 5%
1979-90	-16%	-13%	- 2%

*Including Thomas A. Edison State College

² Actual FTE in the public sectors are based on student credit-hour loads, not on headcounts. The adjustment factors used to approximate FTE are indicated in the tables in Chapter 5.

If the goals are achieved and stable FTE enrollments are brought about largely through significant increases in part-time students, institutions will require additional resources in areas such as student services, library facilities, and parking--in which usage is related to the total number of students rather than to the number of FTEs.

The total headcount projections (Table 5) are the sum of the total number of full-time and part-time students. The baseline series projects a small decrease by 1985, while the goal is to achieve a small increase by 1985 and then to maintain nearly stable headcount enrollments through 1990.

Table 5

New Jersey Statewide Enrollment Projections:
Total Undergraduate Headcount*

<u>Academic Year</u>	<u>Low</u>	<u>Baseline</u>	<u>High (Goal)</u>
1979-80	265,000	265,000	265,000
1985-86	256,000	260,000	282,000
1990-91	242,000	249,000	274,000

Percentage Change

1979-85	- 3%	- 2%	+ 6%
1985-90	- 5%	- 4%	- 3%
1979-90	- 8%	- 6%	+ 3%

*Including Thomas A. Edison State College

Graduate and First Professional Enrollments

Graduate enrollments are related only indirectly to general population changes. In New Jersey, where three quarters of the graduate students are enrolled part-time, graduate enrollments are particularly difficult to project with any degree of certainty. Changes in economic conditions, job markets, and desired career transitions may cause major changes in the perception of the value of graduate degrees. There already has been an enrollment shift from doctoral to master's degree programs, and from traditional arts and science disciplines to applied fields such as business administration and public affairs. Future enrollments may

depend primarily on the availability of such applied programs and the degree of admission selectivity to them. This has always been the case for first professional graduate schools in law, medicine, and dentistry where the number of applicants exceeds by far the spaces available.

The graduate student enrollment projections (Table 6) are based on the assumption that the historical ratio between graduate students in one year and full-time undergraduate students one year earlier will continue and that the number of spaces in first professional degree programs will remain constant except for some growth at the College of Medicine and Dentistry of New Jersey. If this pattern continues, and the undergraduate enrollment goals are achieved, the high graduate enrollment series projects a slight increase until 1985 and then a decline until 1990. These should be the systemwide goals, if they can be achieved within the changes recommended in the section on graduate education.

Table 6

New Jersey Statewide Enrollment Projections:
Graduate and First Professional Students

<u>Academic Year</u>	<u>Low</u>	<u>Baseline</u>	<u>High (Goal)</u>
1979-80	46,500	46,500	46,500
1985-86	44,000	45,000	48,000
1990-91	38,000	40,000	45,000

Percentage Change

1979-85	- 5%	- 3%	+ 3%
1985-90	-14%	-11%	- 6%
1979-90	-18%	-14%	- 3%

Actions to Be Taken

1. The following enrollment goals should be adopted for each of the major components of overall enrollment in the New Jersey system of higher education during the next decade:
 - a. that the proportion of New Jersey public high school graduates who go on to attend college increase from the present level of approximately 52% to 55% by 1990;

- b. that the colleges and universities seek to attract more New Jersey residents who now enroll in out-of-state institutions in order to reduce the net-out-migration rate, now estimated at 40% of all high school graduates who go on to attend college, to 35%;
 - c. that Rutgers University increase the out-of-state freshman enrollment at the residential colleges in New Brunswick from its present level of 7% to a maximum of 15% by 1990 with a 12% planning goal to be achieved by 1985, and that the 1985 goal for out-of-state students at the state colleges be established at five per cent of the freshman class;
 - d. that the retention rate for institutions in the public sector be raised six percentage points by 1990;
 - e. that the number of transfer students from out-of-state institutions and from New Jersey two-year colleges who enroll in four-year colleges in New Jersey be increased 15% above the current number by 1985, from approximately 7,000 to 8,000;
 - f. that the proportion of New Jersey residents enrolling part-time in community colleges be increased from approximately 106 per 10,000 residents over age fifteen in 1979 to 115 per 10,000 by 1985; and that the state colleges increase their proportion of part-time students from approximately 40 per 10,000 residents over age fifteen in 1979 to 45 per 10,000 by 1985.
2. Based on the assumption that all of these goals are actively pursued and achieved, the high series of enrollment projections is adopted as the overall enrollment goal for the higher education system, as follows:

<u>Undergraduate</u>	<u>1979-80</u>	<u>1985-86</u>	<u>1990-91</u>
Full-Time	153,000	153,000	139,000
Part-Time	112,000	129,000	135,000
Total	265,000	282,000	274,000
Full-Time Equivalent	200,000	206,000	196,000
<u>Graduate</u>			
Total Full-Time and Part-Time	46,500	48,000	45,000

3. Until significant progress toward achievement of the overall enrollment goals becomes evident, the baseline series of enrollment projections should be used for planning purposes as follows:

<u>Undergraduate</u>	<u>1979-80</u>	<u>1985-86</u>	<u>1990-91</u>
Full-Time	153,000	140,000	123,000
Part-Time	112,000	120,000	126,000
Total	265,000	260,000	249,000
Full-Time Equivalent	200,000	190,000	174,000

Graduate

Total Full-Time and Part-Time	46,500	45,000	40,000
----------------------------------	--------	--------	--------

4. The Chancellor should prepare an annual report to the Board of Higher Education reviewing progress towards the enrollment goals, revising enrollment projections on the basis of the most current information, and recommending changes in the overall enrollment goals.

CHAPTER FIVE

PROVIDING EDUCATIONAL OPPORTUNITY

In the first of its planning efforts, Goals for Higher Education in New Jersey, the Board of Higher Education set as its primary goal that of "assuring each individual the opportunity to be educated to the height of his potential." The Board believed that if an individual is sufficiently motivated to pursue and able to benefit from collegiate study, the obligation rests upon the system of higher education to make sure that he can find a place in a suitable program. That policy goal continues to prevail and if it is to be achieved, appropriate admissions policies will need to be defined and adequate programs of financial aid will need to be provided.

Admissions Policies for the 1980s

One of the challenges of the 1980s involves the need to establish admission policies designed to achieve a delicate balance between forces and values that often seem to be opposed. On the one hand are such moral and social imperatives as equal opportunity, universal access, and representative diversity within student bodies; on the other hand are academic imperatives associated with the notions of selectivity and high standards of performance. Assuming that both have value and must be fostered, the challenge lies in reconciling them.

In order to meet this challenge, it will be necessary to develop admission policies that match the wide variety of students--in age, in potential for achievement, in motivation, in ethnic and geographic origin--with an equally wide variety of educational opportunities and settings. Within both the public and private sectors, institutional admission policies range from open access to highly selective processes. Individual institutional policies should depend upon institutional mission, location, and faculty orientation and capability. In all cases, differences in individual student needs and potential should be the foremost consideration in formulating policies on admission.

Those institutions that can be selective should be, but they also must demonstrate wisdom in the policies they use to choose their student bodies. Selective institutions have a responsibility to provide challenging educational opportunities for students from all ethnic and socio-economic backgrounds who have demonstrated the highest potential for achievement. However, where institutions have been overreliant on traditional measures in the past, they should examine the use of other criteria in seeking students with the promise for successful college studies. Such measures of creativity and ability would include demonstrated special talent, motivation, leadership, and determination to overcome economic and educational obstacles that might have impeded past performance, to complement other measures of past achievement such as rank in high school class. Selective institutions should also consider the educational advantages that flow from a diverse student body and should seek students from urban and rural communities, from differing ethnic and socio-economic backgrounds, and from

as wide a geographic area as possible consistent with institutional mission and programmatic goals. Selective institutions have a special obligation to provide transfer opportunities for students from less selective institutions under the same conditions that are available for their indigenous students.

Less selective and non-selective institutions also have unique responsibilities. Their admission policies and programmatic offerings should be coordinated so that students have access to programs that meet their needs in environments that offer the best chances for success. In order to make opportunity truly "equal," these institutions should establish educational mobility as a primary objective for their students to enable them to achieve the highest level of education for which they can qualify and to which they aspire. The educational opportunities open to students who enter a two-year college should be comparable to those available to freshmen starting at a four-year college.

Finally, certain principles should be considered by all institutions as they re-examine their policies on admission. The conventional wisdom of the past, that institutional excellence could be built through expansion and growth, is no longer applicable. With one eye on the budget and the other on faculty size, some institutions may be tempted to maintain enrollments as demand declines by reducing their expectations of student performance. Such attempts would serve only to undermine the goal of maintaining diversity in the system. All institutions should consider admitting skills-deficient students and should undertake an effective program to identify such students and offer them courses designed to overcome the deficiencies. On the other hand, properly conceived programs to achieve maximum enrollments by attracting new student constituencies and improving retention may brighten the enrollment horizon.

Therefore, the general objectives of the Plan are: to increase access to higher education for the citizens of New Jersey; to develop admissions policies designed to maintain institutional differentiation, ensure diversity within student bodies, and match student needs and abilities with institutional strengths; and to identify appropriate means of enhancing enrollment.

Increase Access

A dominant theme of the 1960s and 1970s was the extension of access to large segments of the population hitherto excluded from higher education. The unfinished agenda in this area is a major priority for completion in the years ahead.

For more than a decade the Educational Opportunity Fund (EOF) has been the pivotal force in providing access to higher education to New Jersey residents who are both educationally and economically disadvantaged. Through the provision of student financial aid and academic and student support services on individual campuses, EOF has built a strong foundation for the accommodation of non-traditional students at traditional colleges and universities.

The Fund presently conducts programs on fifty campuses and serves nearly 12,000 students per year. It, therefore, is not a "special program" separate and apart from the other operations of colleges and universities. EOF staff serve the institution's students and so should be fully integrated in the institutional structure; EOF services should be coordinated with those provided by the institution but without obscuring the identity and special purpose of the program.

As the entire higher education community begins to reevaluate the services it provides and to whom it offers them EOF programs will need to redefine their roles while keeping in mind that non-traditional students, many of whom are academically, economically and linguistically disadvantaged are rapidly becoming a highly visible and integral part of higher education. Twelve years ago when the Educational Opportunity Fund was first established, students with basic skills deficiencies were virtually unheard of; today, for example, up to 70% of the students entering some urban campuses have some form of basic skills deficiency. The restructuring of EOF in terms of its services and program emphasis is necessary in order to address comprehensively the changing needs and character of the EOF/non-traditional student population.

A major goal for the 1980s continues to be the maintenance of admission policies that offer every high school graduate and adult meeting equivalent requirements access to a college or university program that meets his needs on terms he can best afford. This goal requires that students have available adequate financial aid which takes into account family circumstances and the differing costs at various institutions. And since location remains the most important determinant of student choice, extension of access requires full recognition of the regional character of most institutions.

Achieving this goal in the 1980s will require attention to the needs of special groups of potential students and efforts to enroll them. The traditional college age minority population is expected to grow as a proportion of all traditional college age youth; colleges and universities, particularly those located in or near urban areas, will be called upon increasingly to serve these students and their communities. As the average age of the general population increases, institutions should adapt to serve larger numbers of these "non-traditional" students. The academic skills deficiencies of educationally disadvantaged students must be remedied if access is to mean a genuine opportunity to succeed. Physical handicaps should not prevent individuals who are otherwise able to pursue higher education from doing so. Nor must the creative potential of the extraordinarily talented go unnurtured. In short, access means not only the opportunity to enroll, but also the opportunity to satisfy educational needs and to develop latent abilities to the fullest extent possible, to choose an appropriate educational course, and to have the supportive services necessary to succeed.

College admission procedures and criteria for admission require adaptation and flexibility if they are to accommodate substantial additional students in these special categories. The usual criteria for admission of first-time freshmen are, of course, most appropriate for applicants who have attended secondary school and have taken college aptitude tests within a reasonably short period prior to seeking admission to college. Such criteria are usually inappropriate for evaluating the academic potential of older adults. The same may hold true for some handicapped and educationally disadvantaged students; for example, an educationally disadvantaged student with high potential ability might have low SAT scores. A handicapped student may have relied on individual tutoring and therefore have no class rank. Thus, the usual criteria for admission may not appropriately evaluate the academic potential of handicapped and educationally disadvantaged students.

There is a tendency, at times, to underestimate the importance of transportation to the accessibility of New Jersey colleges. This is especially dangerous, given the great possibility of a decrease in the availability of automotive fuels in the next decade as well as the ever increasing cost of those fuels. Energy conserving modes of transportation such as car and van pooling should be kept in mind now by those institutions which have inadequate parking facilities and later by all institutions should fuel resources become more scarce.

Actions To Be Taken

1. In order to extend access to a wider population including more minority students, adult students, physically handicapped students, and educationally disadvantaged students, each public institution shall consider criteria appropriate for admission of students in these categories. Such criteria should recognize legitimate differences between such potential students and traditional applicants who are about to graduate from high school in terms of documentation they can reasonably be expected to provide. The criteria should also be appropriate to the mission of the institution and remain compatible with the standards maintained for traditional students who enter college soon after completing high school.
2. All public institutions shall participate in the State's special opportunity program (Educational Opportunity Fund) that offers complementary financial and educational support for students from backgrounds of historical poverty, many of whom are linguistic minorities. Each public institution participating shall have as a minimum goal the admission of 10% of its New Jersey freshmen through the EOF program by 1985. The EOF

Board of Directors should review annually the progress of all institutions toward meeting their goals and, based upon its review, should determine appropriate funding levels for the subsequent year.

3. All public institutions should establish as a minimum goal the recruitment of minority students equal to 15% of its New Jersey freshmen by 1985; this proportion is intended to include all minority students whether admitted under regular, special, or EOF admissions criteria. Independent institutions are strongly encouraged to establish similar goals on a voluntary basis.
4. The Department of Higher Education, in conjunction with EOF institutional staff, should develop models for the integration and coordination of student and academic support activities and basic skills curricula development presently carried out by EOF and non-EOF institutional personnel.
5. The Department of Higher Education should also encourage the equitable representation of EOF campus and basic skills institutional staff on planning and curriculum design committees.
6. The Department of Higher Education should encourage the establishment of car and van pooling programs and other transportation services between campuses and surrounding areas.

Matching Student Needs With Institutional Strengths

Undergraduate admission policies should be designed to maintain a broad variety of viable institutions within the New Jersey system of higher education, to insure substantial diversity within the student body of each institution, and to match individual student needs and abilities with institutions' programmatic strengths.

In order to preserve the capacity of New Jersey's public institutions to serve the full range of higher education needs of the State's residents, each public sector should have a distinct function expressed in terms of the programs it offers and the students it serves. For example, the State University and New Jersey Institute of Technology should be noticeably differentiated from the state colleges in the range of professional and graduate programs offered, in the emphasis placed on research, and in the quality of preparation characteristic of the undergraduate student body they attract.

The same kind of differentiation should hold true for state colleges vis-a-vis the community college sector. The rationale for having different public sectors, funded differentially, will lose its force if all public sectors seek to serve the same populations.

On the other hand, a sharply delineated three-tiered structure similar to California's does not seem to be an appropriate model for New Jersey's state-supported system of higher education either. Rather, the goal of admission policies should be to provide opportunities to individuals of varied origins and previous levels of achievement within each sector.

In this light, the following general findings about present enrollments should be noted:

When the aggregate profiles of students entering Rutgers University and New Jersey Institute of Technology, the state colleges, and the community colleges are compared, it appears that present admission policies and practices are serving to differentiate the three public sectors. The mean aptitude level of Rutgers freshmen as measured by the College Board's Scholastic Aptitude Tests (SATs) is the highest of the three distributions, the state colleges second, and the county colleges third. The range of each distribution curve is appropriately wide, and there is considerable overlap among the curves for the three sectors. It should be noted further that the profiles of constituent colleges within different sectors are quite similar in some instances, and that the profiles of individual colleges within a single sector may vary widely.

It must also be recognized that location is an important determinant of college choice. The students at many colleges are drawn primarily from the local county or the surrounding region. Thus, differences between institutional freshman aptitude profiles are explained in part by geographic location, and any effort to set boundaries among sectors must recognize the regional character of most public institutions.

As colleges and universities reexamine their policies on admission, they should strive to maintain or increase this differentiation of service mission. Each college and university should continue to serve a diverse student body, both in order to broaden the social and cultural experiences of its students and in order to increase participation by specific population groups who have hitherto not had the opportunity to participate in higher education in proportion to their numbers.

Each institution should develop a detailed policy statement regarding criteria and procedures for admission of undergraduate students. Admission policies should be based primarily on the institution's ability to provide services that meet the educational needs of carefully defined student constituencies and on the academic standards it plans to maintain. Institutional statements on admissions should specifically consider and attempt to balance the following elements:

1. the ethnic, racial, and geographic distribution of students the college seeks to enroll through both regular and special admission programs;
2. the characteristics of recent and present student bodies;
3. the demonstrated and potential aptitude of students the college wishes to recruit;
4. the achievement level of students the college wishes to recruit;
5. the prior educational experiences the college expects of applicants seeking admission;
6. the socio-economic backgrounds of the students applying for admission;
7. the academic standards of the college; and
8. the student demand for specialized programs offered by the college and the need for graduates of individual professional or occupationally oriented programs offered by the college.

In order to assure differentiation of service missions, all four-year public institutions should maintain an average freshman class profile at or above a "baseline level." The baseline should be the average of the profiles for the freshman classes admitted and enrolled for the fall terms of the most recent three years for which complete data are available. The average profile is to consist of a weighted index composed of the following elements and weighting factors: mean SAT verbal score, 25%; mean SAT math score, 25%; and mean high school class rank, 50%. In calculating the baseline, the institution should exclude scores and ranking of EOF students and a defined proportion of specially admitted students for whom alternative criteria are appropriate. These alternative criteria include indications of motivation and potential, leadership abilities, unusual circumstances affecting academic performance, special talents, work experience, community activities, and grade trend.

In reformulating their individual admission policies, institutions should be guided ultimately by their capacity to serve students' needs at a high level of quality. There should be a clear relationship between an institution's programmatic mission and the student body it enrolls. Rather than emphasize sheer numbers of students served, colleges should now emphasize the coherence of their undergraduate instructional programs with other elements of their missions (e.g., their research and graduate programs, student services available, and strengths of their faculties, etc.). Furthermore, colleges will have an opportunity to improve the

quality of student services and the attractiveness of student life as the pressure of numbers wanes. It should soon become possible to alleviate the overcrowding of facilities and the mass-production atmosphere that characterizes student life on some college campuses. In this sense, admission policies that permit enrollment reductions can be viewed as a unique opportunity to improve the quality of the educational opportunities offered by New Jersey institutions of higher education.

The commitment to access cannot be fulfilled by lowering admission standards any more than a commitment to effective instruction can be fulfilled by lowering academic standards. College admission policies should constitute a strong inducement to the elementary and secondary schools to improve the preparation of high school graduates in the basic skills as well as in disciplinary subject matter. Any further deterioration in the level of preparation is unacceptable. At the same time, higher education has a present obligation to assist students who have the potential to succeed in college, but whose prior education has not prepared them adequately to undertake college level work. Until such time as entering students are adequately prepared by secondary schools to undertake college level work, every institution, without compromising academic standards, should provide whatever remedial programs are necessary to maintain reasonable retention rates of students admitted with skills deficiencies. The period allowed a student to develop the skills needed for success in college should be limited. Retention rates should be improved, but not by compromising academic standards. Both students and society must be protected from the self deception inherent in the practice of "social promotion" or "social credentialing."

Actions To Be Taken

1. Each four-year public institution should review its present admission policies and procedures. Where present policies and procedures have proved inadequate to meet the objectives of access, diversity, and quality, they should be revised. Institutions should consider adding indicators of potential aptitude and motivation to the traditional quantitative criteria (demonstrated aptitude and achievement) used in evaluating applicants for admission and should apply these special factors in considering applications for a defined proportion of their entering classes. For regularly admitted students, institutions should maintain an average freshman class profile at or above the baseline level as defined above.
2. Each public institution should submit annually, as part of its budget request, a profile of its current student body. This profile should include accurate data on the

following characteristics of the freshman class:

- a. racial/ethnic background;
- b. age;
- c. sex;
- d. geographic origin;
- e. SAT-verbal (mean and score distribution);
- f. SAT-math (mean and score distribution);
- g. high school rank-in-class;
- h. basic skills test (mean and score distribution);
- i. ratio of individuals admitted to individuals who applied; and
- j. ratio of individuals enrolled to individuals admitted.

In addition, each public institution will be required to provide accurate data on institutional retention and graduation rates. The profile should serve as a benchmark for discussion between each institution and the Department of Higher Education in considering enrollment goals and State support each year. Planned changes in the dimensions of any of the profile elements should be explained and justified as part of the budget review process, and each institution's performance will be measured by its ability to implement its admission strategy of the previous year.

Increasing Access to Transfer Students

One of the major enrollment goals discussed in the previous chapter concerned the removal of barriers which continue to deny transfer students from two-year colleges equal opportunity and equal access to four-year colleges. These are often the students who have demonstrated their ability to pursue college level work successfully, despite less than satisfactory high school records or standardized test scores. In some senior public institutions the number of spaces reserved for transfer students depends on the size of the freshmen enrollments. If freshmen enrollments are greater than anticipated, transfer applicants are denied admission. As a consequence, admission standards for transfer students are often higher than for first-time freshmen applicants, and transfer students with records superior to those of first-time freshmen are not admitted.

New Jersey's senior public institutions should seek in the 1980s to reduce the percentage of their students enrolled in the lower division and to increase the proportions of upper division students. A shift from the lower to the upper division would provide more transfer spaces, while concurrently developing upper/lower divisions ratios at New Jersey senior institutions that are more in line with other state universities and colleges across the nation.

Actions To Be Taken

1. In order to encourage admission and enrollment of upper division transfer students, colleges and universities should implement the following policies.
 - a. The Full Faith and Credit policy should be revised to include Rutgers and the New Jersey Institute of Technology as participating institutions, together with the state colleges.
 - b. All public colleges participating in the Full Faith and Credit policy should develop effective agreements for articulation of specific programs between respective and corresponding departments at the sending and receiving institutions. Four-year institutions should not normally accept more than 50% of their baccalaureate degree requirements as transfer credits from community colleges.
 - c. All independent senior institutions should be encouraged to develop articulation agreements with neighboring community colleges with the ultimate goal of full participation in the Full Faith and Credit policy on a Statewide level.
 - d. Four-year colleges should develop guidelines for admitting transfer students from four-year colleges in other states and for in-state students who have valid educational and/or personal reasons for transferring.
 - e. Colleges should recruit more actively and strengthen articulation with nearby out-of-state colleges.
2. Each four-year institution should set up and honor a reasonable date for notifying transfer applicants whether they have been admitted or not. Colleges should provide all transfer applicants a statement of their policies regarding transfer credit. Clear directions as to sources of course descriptions and course sequences should be included in the document. A transfer applicant should receive a transcript evaluation before being required to pay a non-refundable deposit.
3. In order to improve implementation of the Full Faith and Credit policy, the Department of Higher Education should continually survey all two-year programs and identify in a published directory those that are approved transfer programs (AA and AS) and those that are not approved transfer programs.
4. The Chancellor shall appoint a Transfer Advisory Board

which should supersede all existing committees dealing with issues of transfer and articulation. The Advisory Board should be asked to study the functioning of the present Full Faith and Credit Policy, to make recommendations to the Chancellor of Higher Education concerning changes in policy and procedure needed to improve the transfer/articulation process, and to monitor and evaluate progress toward implementation of the Board's policies.

Admission Policies and Enrollment Goals

The statewide enrollment projections provide a likely range of possibilities for the future, depending on whether the demand for higher education in New Jersey declines, remains constant, or increases. The impact of the projected decline in high school graduates and the increase in the adult population, however, will vary among the sectors of higher education according to their relative mix of full-time and part-time students and the proportion of the students who are recent high school graduates.

The baseline projections represent our best estimate of what will happen if the enrollment patterns continue unchanged, and only the impact of projected demographic changes is measured. The high projections represent enrollment levels which may be reached by achieving our goals: increasing access to minority, non-traditional and adult students, improving transfer articulation, attracting more out-of-state students, reducing student attrition, maintaining or raising regular admissions standards at the four-year institutions, improving student services, and generally making our institutions more attractive through the development of special missions and improving the quality of student life. The purpose of this Plan is to recommend educational and socially desirable means to achieve the enrollment goals; the high projections should not be viewed as ends to be reached regardless of means.

While the enrollment patterns of the past and the demographic trends for the future provide us with a general picture of what may happen to the enrollments of a sector as a whole, the actual future enrollments of any individual college will be determined by particular circumstances and admissions policy decisions based on the educational, academic, and social goals of the institution.

Included in these "circumstances" is the real possibility of high manpower demands in the coming decade to replace current white collar workers. In other words, given the low birth rate factor of the recent past, this era could witness actual labor shortages. In their planning for the future, institutions should anticipate having to respond to various career training needs, at the same time keeping such plans within their particular sectoral missions.

Some colleges should plan to become smaller now in order to improve the quality of student life or to become more selective in order to build a reputation which will help assure enrollment stability in the long run; others

should plan for limited expansion of services to meet the needs of increased numbers of part-time students; those offering professional programs for which student demand is directly related to employment opportunities should plan their enrollments with this in mind.

The following sections present (1) basic policy goals outlined in this and the preceding chapter which should serve as general planning guidelines for each public sector, (2) baseline projections and enrollment goals for the sector as a whole, and (3) admission policies and enrollment goals based on statements submitted by the individual senior public institutions.

Rutgers, The State University

Rutgers should continue to enroll a student population which can benefit from a university education and which reflects the University's commitment to serve New Jersey's population on a Statewide basis. The primary emphasis of its admission policies should be on the potential for outstanding performance, with continuing particular attention to such underserved populations as minorities, the disadvantaged, women, and handicapped and older students.

The University's student body should continue to reflect the goals of quality and diversity. Although enrollment goals and admissions policies of the individual colleges of the University will vary, in terms of overall enrollment planning the University should:

1. increase its efforts to attract a greater number of qualified in-state and out-of-state students; the residential colleges in New Brunswick should adopt a goal of increasing out-of-state students to 12% of the freshman class by 1985 and 15% by 1990;
2. continue to admit students who have outstanding academic potential according to traditional criteria and adopt a goal of maintaining or, in some cases, improving the freshman profile of students enrolled through the regular admissions process above the three-year average baseline level through honors programs, merit scholarships, and special recruitment efforts which have recently been initiated;
3. continue to apply special admissions criteria to educationally and economically disadvantaged applicants whose potential and talent are not adequately measured by traditional means;
4. continue to strive for minority student enrollment in order to achieve a truly diverse student population; each college should adopt the goal of achieving at least 15% representation of minority students in the freshman class;
5. adopt a goal of enrolling at least 10% of the New Jersey freshmen in each college through the EOF program;

6. increase access for greater numbers of the most promising graduates of the community colleges to the liberal arts and professional day colleges through continued development of articulation with the community colleges;
7. improve student retention rates by continuing to provide services such as counseling, academic advisement, tutoring, and remedial instruction, with particular attention to the needs of students enrolled through special admissions programs.

The University's enrollment goals reflect the projected long-term decline in the number of high school graduates in the State, as well as a reduction in the size of the freshman class in the liberal arts colleges beginning in the fall of 1980. These goals should be understood to be planning estimates, however, and are subject to upward revision should the general enrollment situation change or the University succeed in attracting higher numbers of well qualified students (e.g., transfer and out-of-state students) than presently anticipated.

The University plans for small gradual increases in the full-time enrollments of the undergraduate professional schools in anticipation of continued strong student interest in professional education. Overall, efforts to increase the enrollment of out-of-state and transfer students are planned to offset some of the effect of the decline in the number of New Jersey freshmen. The future enrollment of part-time students, most of whom attend University College on the three campuses, is highly unpredictable. However, some recent findings indicate possible rising trends for this student population. Based on the prevailing uncertainty, long-term goals for part-time students have not been established.

Table 1

Rutgers University Enrollment Projections:
First-Time Full-Time Freshmen

<u>Academic Year</u>	<u>Day Liberal Arts Colleges</u>		<u>Professional Schools</u>		<u>Total</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	6,040	6,040	970	970	7,010	7,010
1985-86	4,900	5,300	800	900	5,700	6,200
1990-91	3,950	4,500	650	800	4,600	5,300

Percentage Change

1979-85	-19%	-12%	-18%	-7%	-19%	-12%
1985-90	-19%	-15%	-18%	-11%	-19%	-15%
1979-90	-35%	-25%	-33%	-18%	-34%	-24%

Table 2

**Rutgers University Enrollment Projections:
Full-Time Undergraduates**

<u>Academic Year</u>	<u>Day Liberal Arts Colleges</u>		<u>Professional Schools</u>		<u>Total Full-time*</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	24,100	24,100	3,600	3,600	28,500	28,500
1985-86	21,600	22,500	3,200	4,100	25,600	27,400
1990-91	18,300	20,000	2,700	3,600	21,800	24,400

Percentage Change

1979-85	-10%	- 7%	-10%	+14%	-10%	- 4%
1985-90	-15%	-11%	-15%	-12%	-15%	-11%
1979-90	-24%	-17%	-24%	0%	-24%	-14%

*includes estimated 800 full-time students at University College.

Table 3

**Rutgers University Enrollment Projections:
Part-Time, Total Headcount and Total FTE Undergraduates**

<u>Academic Year</u>	<u>Part-Time Undergraduate Headcount</u>		<u>Total Undergraduate Headcount</u>		<u>Total Undergraduate FTE (Adjusted)*</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	7,800	7,800	36,300	36,300	31,900	31,900
1985-86	8,300	7,800	33,900	35,200	29,100	30,700
1990-91	8,600	7,800	30,400	32,200	25,300	27,700

Percentage Change

1979-85	+ 6%	**	- 7%	- 3%	- 9%	- 4%
1985-90	+ 4%	**	-10%	- 9%	-13%	-10%
1979-90	+10%	**	-16%	-11%	-21%	-13%

*Adjusted FTE = (Full-Time + 1/3 Part-Time) x 1.025

**Most of this group represents University College enrollments
for which no long term goals are being set.

The undergraduate enrollment goals for the University for 1985 are very close to the baseline projections, reflecting a deliberate policy of maintaining the quality of the student body as well as attracting traditionally underserved groups in order to permit diversity and access. The enrollment goals are not meant to be upper limits and should be revised upward if the University's admissions policies and recruitment efforts during the next few years succeed in attracting larger numbers of the best New Jersey high school graduates who are now choosing to enroll in out-of-state institutions.

To reach the goals of quality and diversity, the University's Board of Governors has approved the principles underlying the following admissions and enrollment objectives for the undergraduate colleges:

Camden College of Arts and Sciences should continue its role as the institution providing a university-level undergraduate education in South Jersey, thereby extending access not only to this population but to the State as a whole. The College, through its admission policies and recruitment strategies, should maintain its commitment to traditional as well as non-traditional students, taking into special consideration the College's urban location. The College should strive to enhance transfer articulation programs with the community colleges in order to further increase its percentage of transfer students.

Cook College should carry on its efforts to attract students with the strongest academic credentials, thereby remaining one of the most selective of the four-year colleges in the State's public sector of higher education. At the same time, the College should continue to recruit non-traditional students with high potential for achievement in a university setting. To bring about greater diversity in the student body, it should seek to increase further the number of transfer, out-of-state and minority students through recruitment and articulation.

Douglass College should maintain its traditional role as a highly selective college for women. It should continue to strive to attract a student body of women who have the highest qualifications for a university education in terms of both traditional and non-traditional measures, and who will benefit from the special advantages of a separate women's college which also offers the wealth of resources of a university. In order to achieve a greater diversity, the college should also continue its efforts to enroll transfer students, out-of-state students and minority students.

Livingston College should continue to be an experimental liberal arts college and offer university-level educational experience to traditional as well as non-traditional students whose academic ability may be demonstrated in a wide variety of ways through the College's flexible admission standards. The College should serve as a model for identifying students whose potential and talent cannot be measured by traditional means and for providing educational programs appropriate to their needs. It should carry

on its efforts to develop programs of articulation to ease the transfer of students who have demonstrated their abilities by successfully completing liberal arts programs at the community colleges and to enroll out-of-state and transfer students. It should also continue its successful efforts to enroll minority students.

Newark College of Arts and Sciences, located in the State's largest urban center, should continue to provide a university-level undergraduate education for a student body drawn from New Jersey as a whole and particularly from the State's densely populated northern region. The College should continue to recruit traditional students while also seeking out and identifying non-traditional students who show the greatest promise and potential. It should also seek to attract transfer students who have the ability to benefit from a university education by continuing to develop articulation programs with community colleges.

Rutgers College should maintain its role as one of the most selective four-year colleges in the New Jersey public higher education sector. It should continue to recruit primarily students with potential for outstanding academic performance in a traditional university liberal arts setting, while maintaining its concern for achieving diversity in its student population. At the same time, the College should pursue a goal of increasing significantly the number of out-of-state and transfer students, and continue its efforts to enroll minority students.

University College should continue to provide a university-level evening liberal arts education designed especially for older part-time students. Access should continue to be assured through highly flexible admissions standards, and enrollment goals should be revised on a continuing basis to reflect actual demand.

The College of Engineering should plan for limited growth while maintaining its present high admissions standards. Future growth should be accomplished by increasing the number of EOF, minority, out-of-state, and transfer students, while the total number of freshmen enrolled should decrease gradually.

The Mason Gross School of the Arts, designated by the State as a regional center of excellence in the creative and performing arts, is a new school which is in the process of developing and broadening its programs; it should, therefore, continue to grow slowly until it reaches an appropriate size. Admission should continue to be highly selective, with a primary emphasis on demonstrated talent in the fine and performing arts.

The College of Nursing should maintain its commitment to educate four-year generic nursing students as well as its initiatives to serve registered nurses seeking baccalaureate degrees. The freshman class should remain at approximately the present size.

The College of Pharmacy, which has sole responsibility in the State for professional programs in Pharmacy, should maintain approximately the present size of its total student body, reflecting currently strong demand and high selectivity.

The State Colleges

The state colleges should continue to enroll students who have demonstrated academic ability and should continue to attract the best qualified students. Their important role as regional centers for liberal arts and professional education requires their admissions policies to reflect the needs of the regional population according to its social, economic, and ethnic composition, with a special focus on providing access to a college education for minority, adult, and non-traditional students through special admissions criteria. At the same time each state college should develop a special identity which will provide it with a Statewide appeal. Building institutional strengths on high quality programs suggests that the state colleges should raise admission standards to these programs as well as maintain their general standards for admission at the current level.

While individual enrollment goals and admission policies are properly left to the determination of the institutions themselves, the general planning guidelines indicate that the state colleges should:

1. continue to accept students who have demonstrated appropriate academic ability according to traditional criteria and adopt a goal of maintaining or improving the average 1977-1979 academic profile of the freshman class;
2. establish special admissions criteria to provide increased access for minority, non-traditional, adult, disadvantaged and handicapped students; each state college should adopt the goal of enrolling at least 10% of its freshman class through the EOF program and achieving at least a 15% representation of minority students in the freshman class;
3. consider enrolling larger numbers of part-time students by developing programs appealing to those who seek cooperative education, continuing professional education, and alternative routes to the baccalaureate, and by improving student services which respond to the special needs of part-time students;
4. expand their major role of providing access to baccalaureate programs for community college transfer students by forming articulation agreements with community colleges in order to facilitate the transfer of students into the upper division programs of their choice;
5. increase student retention rates by improving student services, academic counseling, and remedial programs for entering students with skills deficiencies;

6. attract a greater number of out-of-state students, with a goal of admitting 5% of the freshman class from other states; and
7. consider adopting a goal of increasing the proportion of upper division students to 55% of all undergraduates by increasing retention in the upper division and increasing access to transfer students.

The enrollment goals for the state colleges anticipate a projected decline in the size of freshman classes to reflect decreasing numbers of New Jersey high school graduates, as well as a projected increase in the number of part-time students as a result of the growing size of the adult population in New Jersey. By stressing the development of selected programs, the state colleges plan to increase their ability to attract high school graduates from New Jersey and other states; they also plan to emphasize improvements in retention, transfer articulation, and access to underserved groups in the population, which should reduce the impact of smaller freshman classes on total full-time enrollments. Successful implementation of these plans, together with attracting larger numbers of part-time students, provides a strategy for the state college sector to attain an enrollment goal of maintaining the number of full-time equivalent students at a nearly stable level over the next five years. Although continuing to increase the numbers of part-time students is an important part of the overall strategy for the sector, each state college should decide on the mix of full-time and part-time students which is appropriate to its mission and service capacity.

Table 4

State Colleges Enrollment Projections:
First-Time Full-Time Freshmen and Full-Time Undergraduates

<u>Academic Year</u>	<u>First-Time Full-Time Freshmen</u>		<u>Full-Time Undergraduates</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	9,800	9,800	43,500	43,500
1985-86	8,000	8,500	39,200	42,500
1990-91	6,600	7,100	33,500	38,300
<u>Percentage Change</u>				
1979-85	-18%	-13%	-10%	- 2%
1985-90	-18%	-16%	-15%	-10%
1979-90	-32%	-28%	-23%	-12%

Table 5

State Colleges Enrollment Projections:
Part-Time, Total Headcount and Total FTE Undergraduates

Academic Year	Part-Time Undergraduate Headcount		Total Undergraduate Headcount		Total Undergraduate FTE (Adjusted)**	
	Baseline	Goal	Baseline	Goal	Baseline	Goal
1979-80	23,800	23,800	67,300	67,300	48,800	48,800
1985-86	25,100	27,900	64,300	70,400	45,200	49,200
1990-91	25,900	28,900	59,400	67,200	40,000	45,500

Percentage Change

1979-85	+ 5%	+17%	- 4%	+ 5%	- 7%	+ 1%
1985-90	+ 3%	+ 4%	- 8%	- 5%	-12%	- 8%
1979-90	+ 9%	+21%	-12%	0%	-18%	- 7%

*Does not include Thomas A. Edison State College
(4,300 part-time students in 1979-80)

**Adjusted FTE = (Full-Time + 1/3 Part-Time) x .95

The individual state colleges have indicated that they plan to pursue the following admission policies and enrollment goals which are consistent with the Statewide Plan.

Glassboro State College should continue its principal role of serving the eight southern counties of New Jersey, as well as actively recruiting students from other states. The projected growth in the population of southern New Jersey is expected to put the college in a good position to maintain its current enrollment level. Glassboro should continue its commitment to reserving 10% of the freshman class for educationally disadvantaged students, and to maintaining competitive admission standards for the other 90%, with 10% of the latter admitted by special criteria for non-traditional students. It should continue its policy of encouraging transfers through program articulation with the county colleges of southern New Jersey and expanding program articulation with institutions outside of the region.

Jersey City State College, serving a predominantly commuting student population of widely diverse ethnic, racial and socioeconomic backgrounds, should continue its commitment to serve the urban communities of northeastern New Jersey. The primary

emphasis of its admission policies should be on identifying those students within these populations who have academic potential for baccalaureate level study. The college should continue to exceed the Statewide goals for EOF and minority enrollments in the freshman class and to work cooperatively with Hudson County high schools to increase the percentage of graduates academically prepared and motivated to continue into college.

The College anticipates a larger number of transfer students resulting from its efforts to recruit more graduates of community colleges and from the growth and development of the Hudson County Community College Commission. The College assumes that there will be a decline in the enrollment of full-time students from nearby counties, but will seek to offset the size of this decline by an increase in retention rates through improved student services and an increase in part-time and foreign student enrollment.

Kean College of New Jersey should continue an admission policy of wide access by enrolling students who are able to benefit from and complete baccalaureate study in the programs offered by the college. The college should maintain at least the current academic profile of entering freshmen, and is encouraged to adopt a goal of raising the profile over the next five years and to enroll 15% minority students in the freshman class. Kean already enrolls a higher than average proportion of freshmen from other states and countries; it should increase this number to enhance the diversity of the student body.

Kean College should increase the number of transfer students by improving program articulation with nearby community colleges and by expanding orientation and advisement programs which have helped to reduce the attrition of entering students. The College should plan for a continuing increase in the enrollment of part-time students.

Montclair State College should continue to maintain its long history as an academically selective college attracting and challenging intellectually motivated students from all classes of society and all parts of the State. The primary admissions concern of the College is to select a diversified student body whose abilities, interests and achievement enable it to benefit from an education in the arts and sciences and in professional and specialized areas.

The College should reduce the size of its freshman class as may be necessary to maintain its current academic profile and to continue to attract students with the highest potential for achievement. At the same time it should increase its efforts to enroll 15% of the freshman class from minority groups and 10% through the EOF program.

Ramapo College of New Jersey should continue to offer high quality liberal arts, science, and professional programs to students from every background and of every age who seek interdisciplinary programs within a small college setting. With its campus located in Bergen County, the College should continue to be directly responsive to the needs of full-time and part-time students in the northern-most counties of the State. The emphasis at Ramapo should continue to be undergraduate teaching.

As more residential facilities are constructed on the architecturally barrier-free campus, the College will encourage the enrollment of students from all parts of New Jersey and will increase the proportion of minority freshmen to meet Statewide goals. The College also plans to increase the recruitment of transfer students from two-year colleges.

Stockton State College should continue to emphasize its mission as an undergraduate residential liberal arts college, attracting a majority of its entering students as first time freshmen. While approximately half of the students should be drawn from southern New Jersey, the other half should be recruited from other parts of the State, other states, and foreign countries to meet the college's goal of maintaining a stable enrollment during the next five years. Plans to emphasize selected high quality programs, such as environmental and marine sciences, should continue in order to support the college's reputation as an institution with programs serving the entire State.

The public service activities of the college should increase as Stockton is able to extend its services to the community. At the same time, care must be taken to maintain the personal interest and dedicated involvement of Stockton's faculty members in its unique general education and preceptorial activities.

While improving the current academic profile of the freshmen enrolled through the regular admissions process, Stockton should increase the proportion of minority freshmen to meet Statewide goals and enroll 10% of its freshmen through the EOF program.

Trenton State College should continue to pursue its goal of becoming one of the most selective colleges in New Jersey. Over the next decade every effort should be made to raise regular admission standards beyond present levels while increasing the number of minority students to 15% of the freshman class and maintaining freshman EOF enrollments at 10%.

The College's mission as a high quality, comprehensive, regional institution meeting the educational, cultural, and public service needs of central New Jersey and surrounding areas should be preserved. The atmosphere of a small to medium size institution of quality should enable Trenton State College to attract those who might otherwise consider attending colleges in other states.

Trenton State should anticipate a 10-15% decline in full-time student enrollments during the eighties. The College should increase the number of part-time students and develop programs of articulation with community colleges to offset the projected decline in full-time enrollments.

William Paterson College should continue to pursue its goals of raising regular admission standards and increasing the number of EOF and minority students admitted by special criteria. The College should continue to develop special programs in the sciences, management, and the arts in order to attract more students from other states and from parts of New Jersey outside the local seven-county recruitment area. The opening of new dormitories scheduled for 1982 should enable the College to attract a more diverse body of full-time students.

The College plans to continue to increase the number of part-time students during the next five years and should persevere in stressing its programs and services for these students.

Thomas A. Edison State College should continue to develop and offer both associate and baccalaureate degrees by certifying, assessing, and awarding college credit for college-level learning without regard to how or when that learning was acquired. It should continue to develop new techniques for the evaluation of experiential learning and to provide leadership and assistance to other colleges seeking to develop guidelines for the evaluation of experiential learning or to perform evaluations on their behalf either independently or through consortial arrangements. Thomas A. Edison State College should continue to provide non-traditional access to higher education for adults in response to the future level of demand for this service.

The Community Colleges

The community colleges should continue to be the open door to higher education in New Jersey by providing training in skills proficiencies and the first two years of a college level education to the broadest cross-section of society. They should continue their policies of open admission and low cost tuition. In order to achieve their enrollment goals, the community colleges should:

1. attract larger numbers of part-time and adult students during the next five years and plan for appropriate expansion in student services to meet their needs;
2. augment the social goals of open admission by actively recruiting minority, disadvantaged, non-traditional, adult and handicapped students through efforts to increase their awareness of the opportunities for and benefits of further education;

3. establish a minimum goal of enrolling a freshman class with 10% EOF students; each college's minority enrollment goals should broadly reflect the composition of the population of the county which the college serves;
4. provide strengthened and expanded remedial and developmental programs to permit underprepared students to gain competencies in the basic skills;
5. make new efforts to increase student retention so that a larger proportion of entering students complete an associate degree program or achieve their own personal goals;
6. continue to increase the number of program articulation agreements with four-year colleges in order to ease and improve the opportunities for students to transfer, especially into professional and technical upper division programs with specific prerequisites; and
7. work cooperatively with other organizations such as CETA programs, area vocational-technical schools, and local businesses to expand the number of joint programs available to students.

Unlike the other sectors where the freshman class predominantly consists of recent high school graduates, nearly half of the freshman class in the community colleges is made up of older students who were graduated from high school one or more years before entering college. The community college baseline enrollment projections of freshmen entering in the fall are therefore much less closely related to changes in the number of high school graduates of the previous spring. Instead, they also reflect a projected increase in the adult population which will offset the effect of the projected decline in the number of high school graduates if the adult college-going rate continues at current levels. The baseline projections also suggest that there will be more part-time students enrolled at the community colleges over the next five years, even if the part-time participation rate of adults does not increase, merely because the size of the adult population will continue to become larger.

The community college enrollment goal is to achieve a small increase in total FTEs during the next five years, primarily by attracting more adult full-time and part-time students and by increasing the proportion of entering students who complete associate degree programs.

Table 6

Community College Enrollment Projections:
First-Time Full-Time Freshmen and Full-Time Undergraduates

<u>Academic Year</u>	<u>First-Time Full-Time Freshmen</u>		<u>Full-Time Undergraduates</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	18,900	18,900	43,000	43,000
1985-86	19,100	19,500	41,800	43,300
1990-91	17,500	18,100	38,600	40,700

Percentage Change

1979-85	+ 1%	+ 3%	- 3%	+ 1%
1985-90	- 8%	- 7%	- 8%	- 6%
1979-90	- 7%	- 4%	-10%	- 5%

Table 7

Community College Enrollment Projections:
Part-time, Total Headcount and Total FTE Undergraduates

<u>Academic Year</u>	<u>Part-Time Undergraduate Headcount</u>		<u>Total Undergraduate Headcount</u>		<u>Total Undergraduate FTE (Adjusted)*</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	61,200	61,200	104,200	104,200	74,600	74,600
1985-86	66,900	72,600	108,700	115,900	75,300	79,300
1990-91	70,700	76,700	109,300	117,400	73,100	77,900

Percentage Change

1979-85	+ 9%	+19%	+ 4%	+11%	+ 1%	- 6%
1985-90	+ 6%	+ 6%	+ 1%	+ 1%	- 3%	- 2%
1979-90	+16%	+25%	+ 5%	+13%	- 2%	+ 4%

*Annualized FTE = (Full-Time + 1/3 Part-Time) x 1.175.
Includes summer, special sessions and additional spring enrollments.

The New Jersey Institute of Technology

The Institute should enroll a student population qualified to meet the rigorous standards of its programs in architecture, engineering, applied science, technology, and related professional fields. Because of its proximity to the Rutgers University campus in Newark, considerable sharing of resources between the two institutions can take place, including student cross-registration. Student demand has been consistently high and is not expected to diminish. The Institute should take advantage of its urban location to recruit greater numbers of minorities, groups that have been severely underrepresented in the engineering professions. The Institute should provide additional technical services and assistance to New Jersey's industrial community in terms of offering the training programs required to meet manpower needs and undertaking research that results in industrial growth and improvement.

Undergraduate enrollments should be adjusted to meet student demand but should be based on policies intended to raise admission standards. The current strong demand should be used to improve the freshman profile substantially and to establish a higher level of admission standards for the future. After a higher standard has been established and, if demand continues, freshman enrollments should be allowed to grow gradually. The enrollment of transfer students at the upper division levels should be increased sufficiently to change the proportion of lower division students to upper division students from the current ratio of 50/50 to 45/55.

The opening of the first dormitory and the development of regionally distinctive programs will allow NJIT to pursue the goal of increasing the number of out-of-state students to 15% of its full-time, first-time freshman enrollment. The Institute should attempt to attract the best qualified students possible, but in no case should it admit out-of-state applicants whose qualifications are lower than New Jersey applicants who are denied admission. NJIT should continue its special efforts to motivate and improve the academic preparation of disadvantaged students and should set special admission criteria to encourage the enrollment of disadvantaged, handicapped, and adult students.

Table 8

**NJIT Enrollment Projections:
First-Time Full-Time Freshmen and Full-Time Undergraduates**

<u>Academic Year</u>	<u>First-Time Full-Time Freshmen</u>		<u>Full-Time Undergraduates</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	660	660	3,100	3,100
1985-86	530	630	2,700	3,400
1990-91	420	600	2,200	3,200

Percentage Change

1979-85	-20%	- 5%	-13%	+10%
1985-90	-20%	- 5%	-18%	- 6%
1979-90	-36%	-10%	-29%	+ 3%

Table 9

**NJIT Enrollment Projections:
Part-Time, Total Headcount, and Total FTE Undergraduates**

<u>Academic Year</u>	<u>Part-Time Undergraduate Headcount</u>		<u>Total Undergraduate Headcount</u>		<u>Total Undergraduate FTE (Adjusted)*</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	1,900	1,900	5,000	5,000	3,800	3,800
1985-86	1,900	1,900	4,600	5,300	3,400	4,100
1990-91	2,000	2,000	4,200	5,200	2,900	4,000

Percentage Change

1979-85	+ 5%	0%	- 8%	+ 6%	-11%	+ 8%
1985-90	+ 5%	+ 5%	- 9%	- 2%	-15%	- 2%
1979-90	+ 2%	+ 5%	-16%	+ 4%	-24%	+ 5%

*Adjusted FTE = (Full-Time + 1/3 Part-Time) x 1.025

The College of Medicine and Dentistry of New Jersey

By their very nature, the medical and dental schools which comprise the College of Medicine and Dentistry of New Jersey (CMDNJ) must follow a highly selective process for admissions. The rigors of medical and dental education and the standards expected of practitioners in these professions demand that only the most academically qualified students be enrolled. Since the ratio of applicants to acceptances at CMDNJ is currently approximately 27:1 at the two allopathic schools, 12:1 at the dental school and as much as 46:1 at the school of osteopathy, the College is able to recruit freshman classes of an extraordinarily high caliber. Each school of the CMDNJ determines its own procedures and criteria for admission. Although practices vary slightly from unit to unit, the schools share the common goal of identifying those candidates who will make the most competent and effective health care professionals.

The CMDNJ should maintain such practices while, at the same time, providing maximum access to potentially able students from disadvantaged backgrounds and underrepresented minority backgrounds. In this latter respect, the CMDNJ medical schools rank the highest in the nation after the schools at Meharry and Howard University with an average of 22% minority students over the past several years. These efforts should continue, especially through such preparatory activities as CMDNJ's own Students for Medicine and Dentistry program, a summer program for disadvantaged college students designed to provide orientation to the professions and enriched science preparation, and its involvement in the current pre-medical/dental baccalaureate programs for educationally and financially disadvantaged students conducted by Montclair State College and Seton Hall University.

The CMDNJ's Graduate School of Biomedical Sciences admits students from a broad variety of clinically oriented scientific backgrounds. The admission standards for this school should continue to be based on identifying those persons who are potential high caliber scholars, researchers, and teachers in the basic medical sciences.

Finally, the CMDNJ's School of Allied Health Professions is designed to prepare practitioners for the allied health fields. Because of its location in Newark, this School has a particular mandate to provide opportunities for inner city students and underrepresented minority students to prepare for meaningful careers in the health care system.

The CMDNJ is committed over the next ten years to meeting the enrollment goals set forth in the policy guidelines approved by the Board of Higher Education in October, 1978.

In doing so, the College will make a major contribution to the State's efforts toward meeting its future health manpower needs as well as toward utilizing the existing and planned network of medical and dental education facilities throughout the State in the most cost effective manner.

The College should attempt to graduate 382 physicians per year through a mixture of both generic (students enrolling as freshmen and pursuing their full four-year medical education under the CMDNJ's auspices) and COTRANS students (third-year American transfers from foreign medical schools). In dental education, a minimum of 88 and a maximum of 96 dentists per year should be graduated by the College. With regard to enrollments in its post baccalaureate programs in biomedical sciences at the Graduate School of Biomedical Sciences, the College should not expect significant enrollment increases above currently budgeted levels unless a specific need for biomedical scientists can be demonstrated. The School of Allied Health Professions is expected to continue to develop cooperative programs with degree granting institutions throughout the State to educate more and new kinds of health professionals. However, since most of the enrollments at the School of Allied Health Professions are and will continue to be joint enrollments with other colleges and universities, these figures are incorporated within the enrollment projections of the degree granting institutions.

The following Table reflects the total FTE enrollment goals implied by the Board of Higher Education's policy guidelines as described above.

Table 10
CMDNJ FTE Student Enrollment Goals

	<u>Actual 1979</u>	<u>Goals for 1985 and 1990</u>
New Jersey Medical School	525	740**
Rutgers Medical School	377	400
New Jersey School of Osteopathic Medicine	52	224
South Jersey Medical Education Program	*	96
Subtotal - Medical Education	954	1460
New Jersey Dental School	251	352
Graduate School of Biomedical Sciences	67	90
Total	1272	1902

*Presently approximately 60 RMS students are rotating through Cooper Medical Center in this branch clinical program.

**Includes 60 first and second year medical students who will transfer to the South Jersey Medical Education Program for third and fourth year clinical training.

The Independent Colleges and Universities

The Independent Colleges and Universities, except for the theological institutions, generally serve a purpose parallel to that of the public institutions. Three quarters of their full-time undergraduates are New Jersey residents, many of whom have socioeconomic and ethnic backgrounds similar to those of undergraduates enrolled in the public sector. The academic profiles of many public and independent institutions are also similar. The independent colleges and universities should continue to provide a diversity of choice to New Jersey residents by applying admission policies appropriate to their institutional missions and goals. Like the public institutions, they are encouraged to adopt the socially responsible and educationally desirable goals of enrolling more minority, adult, disadvantaged and handicapped students.

In the past ten years the number of full-time undergraduate students in New Jersey's independent colleges has remained constant, although it now represents a smaller proportion of the total full-time undergraduate enrollment of the entire system because of the rapid growth of the public sector. The number of part-time undergraduate students attending independent colleges has remained stable since 1972 and, during the last four years, the proportion of part-time students attending the independent colleges has remained constant.

For the independent sector as a whole the baseline projection indicates a decrease in freshmen and full-time undergraduates, reflecting the projected decline in the number of high school graduates both in New Jersey and in the northeastern states from which a large part of the out-of-state applicants are drawn. The high projections suggest that the independent sector could maintain stable enrollments over the next five years and then experience only a small enrollment decline by attracting a higher proportion of New Jersey high school graduates, increasing the number of transfer students admitted, attracting more out-of-state freshmen, and achieving increases in the retention rate. Perhaps the most feasible and beneficial of these would be to increase the number of transfer students from New Jersey two-year colleges, which would not only contribute to the viability of institutions, but also serve to foster social goals such as career mobility.

It is important to note, however, that because of the extreme diversity of admission policies among the independent colleges, ranging from highly selective institutions drawing applicants from a national pool to broad access institutions primarily serving New Jersey residents, the enrollment projections for the independent sector as a whole are not necessarily appropriate for individual institutional planning.

Table 11

Independent College Enrollment Projections:
First-Time Full-Time Freshmen and Full-Time Undergraduates

<u>Academic Year</u>	<u>First-Time Full-Time Freshmen</u>		<u>Full-Time Undergraduates</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	9,000	9,000	35,000	35,000
1985-86	7,300	8,400	31,000	35,500
1990-91	6,000	6,900	26,800	32,900

Percentage Change

1979-85	-19%	- 5%	-13%	+ 1%
1985-90	-18%	-18%	-14%	- 7%
1979-90	-33%	-23%	-29%	- 6%

Table 12

Independent College Enrollment Projections:
Part-Time, Total Headcount, and Total FTE Undergraduates

<u>Academic Year</u>	<u>Part-Time Undergraduate Headcount</u>		<u>Total Undergraduate Headcount</u>		<u>Total Undergraduate FTE*</u>	
	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>	<u>Baseline</u>	<u>Goal</u>
1979-80	12,800	12,800	47,800	47,800	39,300	39,300
1985-86	13,400	13,400	44,400	48,900	35,500	40,000
1990-91	13,800	13,800	40,600	46,700	31,400	37,500

Percentage Change

1979-85	+ 5%	+ 5%	- 7%	+ 2%	-10%	+ 2%
1985-90	+ 3%	+ 3%	- 9%	- 4%	-12%	- 6%
1979-90	+ 8%	+ 8%	-15%	- 2%	-20%	- 5%

*FTE = Full-Time + 1/3 Part-Time

Financial Aid

The State's strong commitment to making higher education opportunities available to all citizens has resulted in significant growth of the higher education endeavor in New Jersey during the previous fifteen years. This growth was made possible, in large measure, by the establishment of comprehensive and integrated student assistance programs.

Although the fundamental purpose of publicly supported student assistance programs is the elimination of financial barriers to higher education, they serve other important purposes as well. The Tuition Aid Grant Program (TAG), for example, allows students a reasonable degree of choice of institution by recognizing varying costs of attendance among institutions and by making individual awards based both on individual ability to pay and on individual institutional tuition levels. The Guaranteed Student Loan Program also contributes to student ability to choose by providing subsidized, low interest loans that assure students will have sufficient funds to complete their financial aid packages or substitute for family contributions.

Another purpose widely recognized as important to the welfare of the State and its individual citizens, is the provision of educational opportunity to persons heretofore excluded by historical poverty and educational disadvantage. Substantial individual talent has been wasted and significant contributions lost as a result of social conditions. The Educational Opportunity Fund (EOF) was created in 1968 to encourage the development of that talent in our colleges and universities.

There are clear educational and social benefits to be gained by rewarding students with superior academic records and encouraging them to enroll in New Jersey colleges and universities. The Garden State Scholarship program accomplishes this purpose by providing scholarship allocations to New Jersey institutions of higher education to use in the recruitment of superior students. This program continues New Jersey's long standing commitment to encourage the full development of its young scholars.

In addition, the Physician-Dentist Loan Redemption Program although now in its nascent stage, can provide opportunities for partial loan forgiveness for physician and dentist graduates of the College of Medicine and Dentistry of New Jersey and Fairleigh Dickinson University School of Dentistry who agree to practice for a specified period of time in underserved areas of the State.

Since World War II, Federal student financial aid programs have become an increasingly important factor in the fiscal lifeline of colleges and universities. New Jersey's share of Federal campus based funds in 1978-79 was more than \$20 million, and New Jersey students qualified for Federal Basic Educational Opportunity Grant (BEOG) awards of more than \$46 million. These grants, based solely on financial need, are coordinated with New Jersey's Tuition Aid Grant (TAG) and Educational Opportunity Fund (EOF) programs.

So that each student will receive the assistance appropriate for his educational needs, efforts to coordinate Federal, State, and institutional programs should be continued. Since the BEOG program is commonly recognized as the base student aid program, it should continue to be followed by, and coordinated with the State grant so that no student will receive aid in excess of need. Should need continue to be a factor after Federal and State awards are given, institutions should provide programs of grants, work, and loans responsive to individual circumstances. A well conceived schedule for the delivery of Federal, State, and institutional aid will allow students to exercise freedom of choice among institutions and to meet deadlines for the payment of tuition and other institutional fees. It is also important that financial aid packages be delivered to students without unnecessary delay so that they can be used throughout the school year and that administrative mechanisms be created to provide the flexibility needed by institutional financial aid administrators to simplify the process of administering financial aid.

The State's student assistance programs are governed by three public boards: the Student Assistance Board, the Educational Opportunity Fund Board, and the New Jersey Higher Education Assistance Authority which develop policies for these programs and also monitor and evaluate the delivery of financial aid to students. Appropriate coordinating mechanisms among these boards should be established to insure that the programs function efficiently and effectively.

Actions To Be Taken

1. The Tuition Aid Grant Program should continue to award aid on the basis of student need. The Garden State Scholarship Program should continue to base awards on both financial need and academic merit. The Educational Opportunity Fund Program should continue to use educational and economic disadvantage as the criteria for its awards.
2. Development of State, Federal, and institutional financial aid programs should avoid heavy reliance on loans to students as a means of meeting demonstrated financial need.
3. The Department of Higher Education should explore the possibility of arranging membership appointments to the three policy boards concerned with student assistance so that each will have among its membership one representative of the other two boards.
4. The Student Assistance Board, Educational Opportunity Fund Board, and New Jersey Higher Education Assistance Authority should conduct detailed evaluations of State programs placing special emphasis on their success in eliminating financial barriers.

5. There should be a required annual review of financial assistance by the Student Assistance Board, the Educational Opportunity Fund Board and the Higher Education Assistance Authority to insure that amounts reflect constantly changing total college costs.
6. Institutional financial aid administrators should continue to be responsible for coordinating the awards procedure at each institution and for assuring that each student receives the optimal total aid package.
7. The Department of Higher Education should assume a greater leadership role among campus, State, and Federal financial aid professionals to provide better information links between and among professional groups and individuals and to eliminate administrative duplication.
8. The Department of Higher Education should work with Federal legislators, administrators, and legislative committees to coordinate Federal, State, and institutional student financial assistance activities.
9. Future planning for State programs of student assistance must recognize and coordinate with Federal efforts to insure the best comprehensive set of programs for New Jersey students. Additional efforts should be devoted to analyzing the combined impact of Federal, State, and institutional programs of student assistance. The State should maintain its ability to adjust programs to respond to new needs, e.g., adding new eligibility criteria or changing award sizes, and should strengthen existing programs through data analysis. The new financial aid reporting system of the Higher Education General Information Survey (HEGIS) will be most helpful in this regard.
10. The Department of Higher Education should encourage physician and dentist graduates of New Jersey institutions to avail themselves of loan forgiveness opportunities provided through the Loan Redemption Program up to the maximum extent provided for in the legislation.
11. The Department of Higher Education should continue to provide access to loans for all eligible students and promote the availability of needed funds.
12. The Department of Higher Education should encourage and support the use, and the acquisition if appropriate, of all the administrative resources necessary to carry out the duties and responsibilities of the Higher Education Assistance Authority.

Expansion of Financial Aid Programs

The expansion of Federal and State programs has substantially increased undergraduate educational opportunities for low income citizens, veterans, the handicapped, retired persons, women seeking new careers, and other student groups. However, some groups such as migrant workers and individuals confined to institutions still are not adequately served.

New Jersey's programs provide financial aid only to students enrolled full time. That many individuals have neither the need nor the time to enroll on a full time basis is clearly reflected in the rapid growth of part-time enrollment and projections of continued part-time demand. Financial aid programs should be responsive to the needs of such demands.

In addition, students now may not use financial aid grants for non-traditional methods of earning credit, such as proficiency testing and assessment of college level knowledge. Also, students who attend proprietary institutions are not eligible for publicly supported financial aid and as a result, some needy students are denied these educational options. Financial aid policies should be reviewed and extension of eligibility considered insofar as this is consistent with the educational quality of the program offered and the resources of the State.

Finally, rising graduate program costs continue to present barriers to disadvantaged students which, in turn, contribute to low representation of minorities in the professions. Although loan programs are expanding, grant resources for low income graduate students are minimal. The EOF Program is presently committed to increasing access to graduate education through the expansion of the number of student grants awarded and through greater use of professional pilot programs in various disciplines such as law and medicine. It is important that access to higher education be provided through the doctoral level, and educational opportunity for disadvantaged students should include access to the full range of higher educational offerings, both undergraduate and graduate. A review of State programs policies and resources available is needed to insure increased recruitment and admission of disadvantaged and underrepresented minority students at the graduate level.

Actions To Be Taken

1. The Department of Higher Education should identify and analyze the extent and magnitude of the financial need of part-time students enrolled or planning to enroll in New Jersey institutions to determine the amount of State grant aid needed. Should the study establish a bona fide need, the appropriate boards should consider

extending financial aid to deserving part-time students.

2. The Department of Higher Education and the policy boards concerned with financial assistance should review funding mechanisms for financial aid for graduate and professional studies for economically disadvantaged students and should encourage institutions to recruit graduate and professional students from economically disadvantaged and minority backgrounds.
3. The Department of Higher Education should encourage and support the development of a loan to parents program as provided for under recently enacted Federal legislation.
4. The Department of Higher Education should continue to cooperate fully in the Federal Guaranteed Student Loan Program to make loans available to undergraduate and graduate students through continued close cooperation with the lending community.
5. Grant aid to students enrolled in proprietary institutions should be considered only if the institutions in which they enroll are governed in a manner similar to colleges and universities in New Jersey.
6. The Student Assistance Board should analyze the need for grant funds to pay for proficiency examinations and other methods of assessment outside the classroom.

Financial Aid Information

The Department of Higher Education presently distributes a brochure entitled State and Federal Financial Aid Programs for New Jersey Students to institutions, students, and prospective students which outlines various programs of student aid, eligibility criteria, application processes, and deadlines. The Department also operates a toll free hotline service, provides speakers at area college nights and other community gatherings, and conducts training programs for secondary school guidance counselors and campus financial aid administrators.

The State also encourages the dissemination and use of the College Board publication, Meeting College Costs. Initial efforts are now underway to coordinate the financial aid hotline telephone service with the information and referral service of the Statewide Information Network for Education (SINE) at Thomas A. Edison State College. The SINE publication, Going to College in New Jersey, contains a section on financial aid. Aside from these beginning steps, however, there has not been a concerted movement to coordinate current efforts or to provide additional sources

of information through different types of publications or the use of various media.

General information designed to alert all persons to the availability of financial aid for higher education should be provided early and at all levels in a continuous and systematic way as should more specific information relating career preference to educational requirements, costs, and various available aid programs. All pertinent information should be presented in a single publication called The New Jersey Financial Aid Guide which should contain general information about college costs, ways of determining need for financial aid, sources and types of financial aid, application processes, and specific information about Federal, State, institutional, and other financial aid programs available to New Jersey students. This guide should explain in detail the rights and responsibilities of students receiving financial assistance and should list other sources of information on the subject. The document should be the central source of information for financial aid officers, secondary school counselors, students, and parents and should be accessible to all residents through schools, colleges, libraries, state agencies, and neighborhood centers. The information should be organized and presented so that it could be used in conjunction with or independent of a professional financial aid counselor and should be translated so that Spanish speaking students and their families may become aware of collegiate opportunities and financial aid programs.

Specific highlighted information is needed for the Educational Opportunity Fund which provides services beyond financial assistance. Enrollments in the Educational Opportunity Fund Programs have declined slightly in recent years, even though analysis shows that the population of persons who might benefit from EOF has not. Directors of campus programs have noted that one of the major problems in identifying students is the lack of sufficient public information or awareness of the Program, especially in communities where there is great need.

Response to a December, 1978, survey indicated that people seeking financial assistance information prefer personal discussion to other means. In addition to the use of trained professionals and staff, an inexpensive and practical means of providing person to person counseling is through trained peer counselors who would be paid through College Work Study funds, would work flexible hours, including evenings and weekends, and would assist prospective and currently enrolled students, as well as parents and returning adults, with assistance needed to make the aid programs more widely understood and used.

Actions To Be Taken

1. The Department of Higher Education and individual institutions should expand and intensify their efforts to provide students and prospective students with accurate and timely information on the availability of financial aid and the rights and responsibilities of individual students in the financial aid process.
2. The Department of Higher Education should develop and implement an information system concerning the availability of financial aid for higher education to all persons in New Jersey.
3. The Department of Higher Education and the institutions of higher education should improve and expand mechanisms for coordinating financial aid information with information concerning other aspects of higher education.
4. The Department of Higher Education should develop and distribute throughout the higher education community a comprehensive publication containing all financial aid information available and should revise and update that publication every two years.
5. The Department of Higher Education should provide additional assistance to campus programs in their recruitment efforts. Such assistance may take the form of workshops for guidance counselors and institutional recruiting staff and the Statewide distribution of information.
6. The Department of Higher Education should encourage such activities as: the use of campus staff to train community advisory board members for identifying and referring potential students; the distribution of college materials to students below the 11th and 12th grades; and the coordination of EOF programs with Federal programs for disadvantaged students in higher education.
7. The Department of Higher Education and several institutions should attempt to develop pilot programs for the training and use of peer counselors, should monitor and evaluate these programs, and should urge all colleges and universities to conduct similar programs as appropriate.
8. The Department of Higher Education should expand its training materials and annual training sessions for aid administrators and guidance and peer counselors.

High School-College Articulation

Although the establishment of separate Boards of Education and Higher Education is structurally sound for purposes of coordination and governance, the maintenance of two separate systems of education can create impediments for some students in making the transition from high school to college. Some students can benefit from an opportunity to earn their high school diplomas in less than the usual four years and begin collegiate study early. Colleges and high schools already engage in a number of practices which permit high school students in the upper quarter of the senior class to follow this route.

Some high schools, for example, invite members of college faculties from adjacent institutions to offer general courses during the senior year, and others develop advanced courses within the high school curriculum through which students may receive credit or advanced placement by satisfactory performance on standardized tests. In addition, a number of high schools release students during the senior year for partial programs of study at nearby collegiate institutions. In several states, including New Jersey, equivalency diplomas are awarded to students who complete 24 credits of collegiate work thereby permitting colleges to admit selected students after completion of the junior year. The extent to which these practices are adopted varies among schools and depends on the needs of the particular high school and the size of the student population seeking to participate in accelerated or enriched programs of study.

To provide collegiate study for academically able high school students and reduce unnecessary duplication of coursework offered in the senior year of high school and the freshmen year of college, more effective working relationships should be established between the Boards of Education and Higher Education and their respective staffs, and between institutions at the primary, secondary and collegiate levels.

On the other hand recent studies indicate that substantial numbers of students, many of whom are minorities and residents of urban areas, never graduate from high school and so are unable to gain the advantages of a collegiate education. It is essential, therefore, that the elementary and secondary education of urban residents be improved. Institutions of higher education can contribute by working actively with urban high schools and by transmitting promising teaching techniques and information necessary to improve the counseling and career awareness of students in urban schools. Moreover, it is now widely recognized that participation in higher education, especially at the graduate and professional levels, is rooted in the quality of earlier educational experiences, making persistence to high school graduation all the more important.

Actions To Be Taken

1. The Department of Higher Education should carry out the Statewide policy of articulation between high schools and colleges approved by the Boards of Education and Higher

Education as defined in High School-College Articulation in New Jersey, a Report of the New Jersey High School-College Articulation Policy Advisory Group, which contains the following policy statements:

- a. local colleges and high schools are urged to increase the opportunity for students entering college to take advantage of a broad range of procedures for assessing prior learning for credit, such as advanced placement, the College Level Examination Program (CLEP), and local challenge exams to validate knowledge gained during the high school years;
 - b. opportunities for collegiate-level instruction ought to be provided for high school students as a means of creating a more challenging senior year and enriching the educational experience; and
 - c. talented and motivated high school students should have the opportunity to enter college early, though such acceleration should occur only after careful assessment.
2. The Department of Higher Education and the Institutions should establish additional programs with urban high schools to strengthen the urban educational experience and to make students aware of career opportunities and the educational programs designed for their realization.

CHAPTER SIX

ASSURANCE OF ACADEMIC AND INSTITUTIONAL QUALITY

A major function of the Board of Higher Education as an independent public body is to optimize relations between educational institutions and State government in order to maintain a proper balance between suitable claims of institutional autonomy and the responsibility of government to assure the adequacy of services offered to the public. The autonomy of institutions of higher education has been a long held value in this country in the belief that institutional initiative and innovation, as well as greater institutional quality, vitality, and commitment, are likely to result from functioning with minimal bureaucratic controls. In recognition of the special role played by higher education in a free society, elected officials wisely have delegated governance of public institutions and systems to trustee boards and boards of higher education. This arrangement helps to insulate higher education from partisan political interference and assures a reasonable buffer between government and those institutions which receive public funds as their primary source of financial support.

The recommendations in this section of the Plan are intended to allow institutions to maintain the freedom to develop according to their own priorities and needs, while providing the Board of Higher Education with the evidence it needs to be assured that the practice of institutional autonomy continues to be compatible with the responsibility to offer educational programs of high quality.

Academic Program Quality

The Board of Higher Education has a responsibility to assure government and the public that New Jersey institutions of higher education are offering programs which meet minimum standards and that the institutions subject to its jurisdiction are maintaining and improving the quality of programs offered to students. Quality can be maintained in higher education if colleges and universities demonstrate that their academic offerings satisfy minimum standards and definitions, that they provide full disclosure of policies and requirements affecting students, that they subject their academic programs to regular review and scrutiny by outside peers, and that they adhere to the tenets of good practice traditionally accepted among institutions of higher education concerning the award of credits and degrees.

The authority of public agencies both to set minimum standards for the operation of and to require full disclosure of basic information from private organizations which serve the public is becoming established. The recommendations which follow concerning minimum standards and public disclosure would apply to all institutions of higher education in the State. Beyond this, however, the role of the Board of Higher Education is carefully prescribed not only by statute, but also by conscious policy which respects the fundamental rights of all institutions of higher education and

their autonomy and freedom in academic affairs. To help to articulate this policy, the Chancellor has appointed a statewide Commission on Educational Accountability, comprised of a representative group of presidents, to prepare a position on a policy of accountability which would be consistent with institutional autonomy and also responsive to the need for public accountability. Such a paper, if approved by the Board of Higher Education, could establish the basis for policy in this area.

The ultimate responsibility for the quality of academic programs and level of student performance required for graduation properly rests with the governing boards of the respective institutions of higher education. The recommendations which follow concerning the evaluation of student performance and the review of academic programs propose that governing boards establish procedures which will provide them with the information necessary to carry out this responsibility.

Minimum Standards and Public Disclosure

Among the strengths of our system of higher education are the diversity and choice that it offers to students. This diversity, however, can lead to uncertainties for members of the public who are faced with a multiplicity of institutional objectives, admission standards, graduation requirements, and policies regarding the award of academic credit. One aspect of accountability to the public is that institutions describe and represent themselves as accurately as possible.

Defining the amount and level of credit granted for courses, the requirements for degrees and certificates, and the standards for admission to a program of study are ultimately the responsibility of the college faculty, subject to the review and approval of the administration and board of trustees. While policies and standards will vary among institutions and programs, the Board of Higher Education has a responsibility to require the maintenance of minimum standards for degrees, and so it is important that all institutions explicitly state their own requirements for the completion of programs. The standards of professional accrediting agencies should serve as guidelines for appropriate programs, and institutions should strive to achieve accreditation for all programs whose educational goals are consistent with those of the accrediting agency.

The variety of institutions pursuing diverse educational goals has tended to blur the definition and has sometimes appeared to dilute the content of a college education. The public has a right to expect that college graduates have received a broad general education, have developed the ability to think critically, have mastered basic reading, writing, and mathematical skills, and have been adequately prepared to enter the world of work, earn professional certification, or pursue more advanced education. It is the responsibility of institutions to assess the success of their

programs through appropriate means such as course distribution requirements, comprehensive examination, standardized assessments of undergraduate learning in general and specific subject areas (such as the Graduate Record Examinations), as well as through the evaluation of student job placement, certification test results, and acceptance to graduate and professional schools.

Actions To Be Taken

1. All institutions should regularly publish relevant information accurately describing themselves and their policies to the public.
2. All institutions should make public those policies and standards which support their programs and goals, such as those for admission, acceptance of transfer credit, matriculation, academic standing, tuition and fees, and graduation.
3. All institutions should develop and publish minimum requirements and standards defining the work required for each degree offered. In general, these should adhere to the "Minimum Requirements for Degrees" in Appendix C.
4. Institutions should develop procedures for the regular review of their undergraduate curricula and testing requirements in order to evaluate whether they insure that students have acquired the basic level of skills and knowledge appropriate to a college graduate. They should prepare reports for their governing boards which evaluate student performance in light of their educational goals.

Review of Academic Programs

During the previous decade, when the New Jersey system of higher education was expanding, the Board of Higher Education confined its oversight of programs of instruction, research, and public service in institutions of higher education to the review of proposals for new programs. In the 1980s, the emphasis should shift toward maintaining and improving program quality through the establishment and implementation of procedures for the regular review of existing academic programs. In order to assure academic freedom and institutional autonomy, the responsibility for establishing the procedures and for carrying out the reviews and implementing their recommendations shall remain with the respective institutions.

Academic program reviews should be carried out by external consultants or professional accrediting societies when appropriate. Reviews of graduate and professional programs should include information on student applications, admission, and placement in the fields for which they were trained. While doctoral programs should be evaluated primarily on the basis of faculty strength and research, master's program evaluations should put emphasis on the quality of coursework, teaching, and faculty involvement in appropriate professional activities. A major goal for the system should be to achieve accreditation, when appropriate, for all undergraduate and graduate professional programs offered in the State by 1990.

The results of unfavorable academic program reviews should be scrutinized carefully by institutional administrations and should be followed by a decision either to strengthen programs essential to the mission of the institution or to discontinue those which do not serve an essential need. Programs of low quality should be discontinued, especially if higher quality alternatives are available at nearby institutions. Any program judged not to meet standards of academic quality should be considered for discontinuance.

Actions To Be Taken

The Board of Higher Education expects the institutions to incorporate the following features in¹ a regular process of review of existing academic programs:

- a. The review should include an evaluation of all the important aspects of the program (e.g., objectives, admissions practices, curriculum, faculty, advisement, facilities, resources, administration, support services.)
- b. The main focus of the review should be directed toward educational quality, evaluated in terms of appropriate program results.
- c. For each program evaluated, both strengths and weaknesses should be identified; specific recommendations for changes should be made where necessary.

¹The Board of Higher Education has procedures for reviewing requests from out-of-state institutions to offer college-level credit-bearing courses and programs in New Jersey. These recommendations are not intended to replace these procedures.

- d. Ordinarily, a wide variety of constituencies (e.g., students, faculty, administrators, alumni, and employers where appropriate) should be involved in the review process.
- e. Review should be an ongoing process. In-depth or large-scale reviews by external evaluators should ordinarily occur once every five years. In institutions where it might not be feasible to evaluate single programs, it might be appropriate to evaluate groups of programs in a broad area, e.g., social sciences, or to have some programs or areas assessed during an accreditation visit by the Commission on Higher Education of the Middle States Association. In this latter instance, care should be taken that the Commission is notified and the self-study and evaluation processes are adjusted accordingly.
- f. The responsibility for initiating and directing reviews and implementing the recommendations should be clearly fixed within the institution. This would require, for example, indicating which office or individual selects the programs to be evaluated, who prepares any self-study material, who is responsible for seeing to it that appropriate recommendations are implemented.
- g. A periodic evaluation of the review process itself should take place.
- h. Reports from the reviews should be provided to the institution's president and governing board.

Nothing above precludes the Board of Higher Education from conducting its own review as statute permits and circumstances require. In cases in which it is statutorily permissible and the Chancellor considers it advisable, reports of any external committee shall be available at the institution for the Chancellor's review.

Standards for Recognition of Non-Collegiate Programs

In their efforts to provide educational services to non-traditional students, institutions sometimes establish off-campus programs offered under contract by another organization. Typically, a college enters into an agreement to grant academic credit for seminars, training programs, or conferences sponsored or conducted by a corporation or government agency. While institutions are encouraged to serve local needs and experiment with new programs, it is essential that creditbearing programs offered under such arrangements meet the same standards of quality as normal on-campus instruction.

Actions To Be Taken

1. The Department of Higher Education, in consultation with the higher education community as appropriate, will develop for presentation to the Board of Higher Education, "Guidelines for Contractual Agreements Between Institutions of Higher Education and Non-Collegiate Organizations" based on the following principles:

- a. Granting of Academic Credit:

A college may grant credit only at the level and only in those areas for which it has degree granting authority; for example, a college may not award post-baccalaureate credit if it does not have authority to award graduate degrees. Nor may it offer graduate or post-baccalaureate courses in a field (e.g., psychology) if such offerings are not acceptable in an authorized graduate degree program at that college.

- b. Faculty:

The credentials of instructors used by the contracting agency shall be reviewed and approved by the appropriate faculty of the college, and shall meet the college's standards for regular adjunct faculty, and the individual shall be granted adjunct status.

- c. Sponsorship:

The course shall be clearly and publicly identified as belonging to the college; i.e., both parties shall take appropriate steps to ensure that the public understands that the college assumes substantial responsibility for the course.

- d. Amount of Credit:

In determining the amount of credit to be granted for participation in a course offered by a contracting agency, the college shall adhere to the minimum definition of the credit hour established in this Plan. No more than 25% of a degree program shall be satisfied through such courses, except in the cases of arrangements between colleges and hospital-based programs in the health professions in which the clinical component of the program is provided by the hospital school and under the special operating arrangements in the Union Coun-

ty system which is administered by the Union County Agency for the Coordination of Higher Education. All course requirements with respect to student attendance, amount of class time, amount of outside work, standards for performance, and prerequisites shall be the same as for courses offered on campus. No more than one credit hour shall be granted for an experience compressed into one week's time or less.

e. Administration:

The college shall apply to these contract courses the same requirements it applies to its own courses with respect to class attendance and participation, student evaluation, course content and quality.

f. Support Services:

The college shall insure that appropriate academic services are provided for students enrolled in such courses. These services shall include opportunities for access to library, laboratory facilities and computers, and advisement.

g. Tuition and Fees:

The college shall determine that the combined tuition and fees charged to students are consistent with policies established by the appropriate governing body. The payment of additional cost not covered by student tuition and fees shall be negotiated by the college and contracting agency.

h. Governing Board Approval:

All contracts between the college and a contracting agency shall require the formal approval of the college governing board or its designee.

Quality and Development of the Faculty

The strength of the faculty directly determines the quality of academic programs and the reputation of educational institutions. Academic reputation, in turn, is a primary influence on student choice and is a critical component of the statewide effort to attract a larger proportion of New Jersey's high school graduates to New Jersey colleges. Strengthening faculty resources will strengthen institutions.

The intellectual vitality of an institution and the continuous renewal of ideas can be assured both by bringing in new faculty and by providing opportunities for existing faculty to renew themselves. The periodic evaluation of tenured faculty so that their strengths may be matched with the distribution of their duties, the introduction of a salary program which provides incentives and rewards for outstanding performance, the more effective management of faculty time and funding opportunities, and the expansion of programs that allow faculty participation in activities that lead to professional and personal development would significantly contribute to strengthening existing faculty resources.

One of the greatest challenges of the next decade will be to use the tenure system with sufficient flexibility so that faculties may be strengthened and institutions may meet changing needs. Tenure has and will continue to play a vital role in the protection of academic freedom. In the previous two decades of enrollment expansion, it has provided important advantages to individuals and institutions alike. In the coming decades of enrollment decline, however, the tenure system can threaten institutional flexibility and promotional opportunities for young faculty.

There are therefore three major issues involved: providing for faculty renewal through the more effective recruitment of the most highly qualified candidates; strengthening existing faculty resources through incentives, evaluation, and effective management; and maintaining flexibility within the tenure system.

Faculty Renewal Through More Effective Recruitment

In order to assure a constant renewal of their intellectual climates, colleges must maintain a healthy mixture of older and young faculty. Because opportunities for recruiting new faculty will be limited in the next decade, it is essential that those positions which do become available are filled with the most highly qualified candidates. Given the growing national surplus of Ph.D.s in many academic fields, there is no reason why colleges should continue to hire persons who have not completed their doctoral work except under unusual circumstances and in those fields where the Ph.D. is not normally the terminal degree.

While faculty salaries at New Jersey's public institutions are above the national average in the upper ranks, they are barely competitive at the entry level positions of instructor and assistant professor. Because the current system of annual salary increases applies equal percentage increases (both through cost-of-living adjustments and the size of increments) to all ranks, there is a large and growing disparity between salaries in the upper and lower faculty ranks. Recruitment of new faculty is also handicapped by a State policy which does not provide for reimbursement of relocation costs, a benefit normally offered by most competing colleges.

At the state colleges, successful recruitment has been hindered by the policy of offering newly appointed faculty contracts for only one year and so denying them any assurance of stable employment for a longer period of time. The common practice at most institutions is to award three-year contracts which either are renewable for three years after which a tenure decision is made or are specifically non-renewable and do not lead to tenure.

Additionally, there is no provision at the state colleges for making new appointments with tenure in the upper ranks; as a result these colleges cannot meet the minimal requirement for recruiting established scholars to assume positions of academic leadership.

Actions To Be Taken

1. Except in unusual circumstances, all initial appointments in the public sector at the assistant professor rank should be made only to persons who hold the Ph.D. or other appropriate terminal degree.
2. The schedule of faculty compensation in the public sector should be revised so that future salary increases will raise compensation in the lower ranks at which new faculty are normally recruited at a higher percentage rate than in the upper ranks.
3. The State of New Jersey should allow public institutions to reimburse newly hired faculty for relocation expenses.
4. Initial appointments at the state colleges to assistant professorship rank and above should be made permissible on a three-year contract basis. These contracts should be renewable for an additional three years after a careful review, and lead to a tenure review during the sixth year.
5. Each of the state colleges should be permitted to make new appointments with tenure in the upper ranks in order to recruit prominent scholars for leadership positions as deans, department chairmen, and senior professors.

Strengthening Existing Faculty Resources

The goal of strengthening existing faculty resources requires a system of compensation that motivates and rewards the most productive scholarship and the most effective teaching. In the New Jersey public institutions, it has become accepted practice that

salary increments are awarded annually separate from any performance evaluation that determines whether an increment has indeed been earned. This practice has been supported strongly by faculty collective bargaining units in response to pressure to have all faculty treated alike. In some cases, especially when research support is already limited, the lack of a system that rewards productive scholarship has resulted in faculty devoting their research time to overload teaching in order to gain additional compensation.

At most institutions the only group whose performance is periodically reviewed are the non-tenured faculty. Because of their junior status, they are also the most vulnerable to bearing the burden of heavy teaching loads during the years that their productivity is most closely scrutinized. On the other hand, most of our institutions have no system for reviewing and evaluating the performance of the tenured faculty in order to adjust their work loads to reflect their most effective contribution to the college, either in teaching, research, public service, or administration. Based on periodic evaluation, alternative patterns of faculty workload should be developed, emphasizing those areas best suited to individual needs and strengths. Senior professors who have developed a special interest and talent for teaching may assume additional teaching loads, which would in turn allow junior faculty to be assigned lighter teaching loads and provide them with additional research time.

Faculty strengths can be cultivated through the more effective management of faculty resources. The consolidation of small departments and the elimination of administrative duplication can be used to free more faculty time devoted to administration for teaching or research. A clearly stated and consistently applied policy of restricting calendar year contracts to faculty in administrative or full-time research positions could provide funds for faculty support in other areas. A careful administrative review of applications for contracts and grants could be used to advise the faculty if they are not taking full advantage of opportunities for outside funding of staff support, computer time, library resources, and equipment which would free institutional resources for the strengthening of other areas. Administrative leadership in developing sources of research funding from the private sector and assistance in pursuing Federal and State contracts and grants can add significantly to the development of faculty research strength.

To maintain their vitality, to keep up to date, to improve their skills, and to expand their range of experience, faculty should be encouraged to participate in government, industry, and educational programs at other institutions. Both Rutgers and N.J.I.T. provide limited amounts of released time for faculty to lend their expertise in solving problems of state and local government. The community colleges and Princeton University have

developed a program that provides opportunities for faculty renewal for community college faculty members. In the community colleges, where instructors are often recruited directly from the occupations which they will teach, there is a need for training in basic teaching and classroom skills.

Actions To Be Taken

1. All public institutions shall develop and submit to the Department of Higher Education a plan for the periodic review and evaluation of tenured faculty.
2. The Board of Higher Education should adopt a policy requiring the development of a system of faculty compensation which provides for placing a significant portion of funds for annual salary increments into a pool designated for merit increases to faculty and administrators who have demonstrated superior performance.
3. Public institutions should prepare a report on junior faculty teaching loads, committee assignments, and research support by departments and units, for presentation to their governing boards and should propose a policy for strengthening opportunities for junior faculty development.
4. Administrations of the public institutions should review and, if necessary, improve the management of faculty resources. Two areas which require particular attention are the effective allocation of released time for administrative duties and the policy on granting calendar year contracts.
5. Institutional administrations should provide leadership and assistance to faculty in developing and taking full advantage of opportunities for external research funding.
6. Faculty should be encouraged to participate in government, industry, and educational programs through released time and fellowships. Rutgers University should develop a program for community college faculty on the model of the existing program at Princeton University.

Maintaining Flexibility Within the Tenure System

- There will be very little need for additional faculty positions in our colleges during the 1980s. On the contrary, some colleges and some programs within many colleges will find themselves with more tenured faculty than can be justified by student enrollments.

Many of our colleges already have in excess of 70% of their faculty holding tenure. They find themselves saddled with a rigid structure which does not allow sufficient flexibility to strengthen faculty resources. This lack of flexibility severely curtails recruitment to assure faculty renewal, restricts the ability to alter the size of departments in response to changing student preferences, and limits the employment of special kinds of faculty to serve nontraditional students with special educational needs.

Rutgers has carefully managed and monitored the granting of tenure in such a way that there continues to be a healthy balance between tenured and untenured faculty, and has thereby maintained sufficient flexibility to allow for faculty renewal and to meet changing institutional needs. Many of the state colleges, however, have not been able to do this, despite the policy of the Department of Higher Education which imposes a limit on the number of associate professors and full professors which is not to exceed 55% of all faculty. The effect of this limit has not been to restrict the granting of tenure, but to increase the number of faculty granted tenure at the assistant professor rank. By abandoning the common academic practice of granting tenure and promotion to associate professor at the same time, the state colleges have created a class of tenured assistant professors who have little opportunity for promotion, a situation which leads to demoralization for the individual and rigidity for the institution.

Unfortunately, too many faculties have failed to exercise their responsibility in the process of recommending promotion and tenure. Instead of critically evaluating academic performance at the department level, they have routinely recommended all or most candidates eligible for tenure. Avoiding the responsibility of exercising academic judgment forces the tenure decision to be made by the college administration, which is particularly vulnerable to the pressures of nonacademic considerations. It must be recognized that the system can only work if some are not recommended for tenure. These decisions are painful ones, but conditions require that the faculty exercise the necessary discipline to make them. It is time to decide whether it would not be better for the institutions and the individuals involved if new appointees to departments in which there are no opportunities for promotion were awarded multiple year contracts terminating without the possibility of tenure.

The State has contributed to the rigidities of the tenure system by funding the faculty pension program at a level which is inadequate to meet the basic needs of retirees. Consequently there is no incentive to choose early retirement. The pension plan encourages faculty to continue working as long as possible, reducing the rate at which openings for new faculty become available.

Action To Be Taken

1. The Chancellor should appoint a special commission of academic leaders to prepare a report on the tenure system at the public institutions in New Jersey. The commission should review the existing tenure practices and processes of faculty evaluation in the New Jersey public institutions in comparison to practices at comparable institutions elsewhere, should study viable alternatives to the existing tenure practices which would provide more flexibility and give greater protection to newly hired faculty, and should make recommendations for the future.

Basic Skills Testing and Programs

Public confidence in educational institutions depends upon the ability of those institutions to equip students with the knowledge and skills of "educated" men and women. To the extent that a crisis of confidence exists today, it derives from a perception that credits, diplomas, and degrees no longer represent substantive academic achievement. This perception applies especially to achievement in the "basic skills" of reading, writing, and mathematics.

For the purposes of this Plan, the term "basic skills" refers to the tools of intellectual expression used in common by participating members of all academic communities. Broadly conceived, these tools are the language of words and the language of mathematics. They are "basic" because students need them in order to extract and organize information, to exercise and develop the critical faculties of the mind, and to express ideas clearly and coherently. Without them communication is imprecise, learning is impaired, and understanding is impossible.

Parents have a right to expect that their children will receive a thorough grounding in the basic skills through the programs offered by primary educational institutions. Employers have a right to expect that prospective employees bearing academic credentials will have attained proficiency in the basic skills and will be able to apply them in their work. Most important, students have a right to expect that educators will offer curricula designed to develop the necessary skills, define appropriate standards, and insist on student performance to earn grades, credits, and degrees.

Abundant evidence indicates that students' proficiencies in the basic skills have been declining and that the problem is pervasive both nationally and in New Jersey. It is a primary goal of this Plan to identify effective means of recognizing and treating this problem. Educational institutions at all levels must concentrate attention and resources on basic skills development of children from an early age; in the years immediately ahead, colleges and universities must continue to diagnose and strive to remedy basic skills deficiencies of their students; and the Departments of Education and Higher Education must cooperate to promote the development of students' proficiencies in basic skills.

Basic Skills Development

The eventual solution to the "basic skills problem" lies in strengthening the ability of the State's elementary and secondary schools to develop students' proficiencies in reading, writing, and mathematics. While the primary responsibility for achieving this objective rests with the school systems and the State Board of Education, there is much that higher education can contribute to support the effort.

First, the higher education community should set an example of leadership by stating its own convictions about the importance of the basic skills and by adhering to educational principles and practices that are consistent with those convictions. It is unrealistic to expect schools to demand more of students than colleges do.

Second, colleges and universities should reexamine and improve, where necessary, their programs of teacher education and educational administration, and should limit admission to such programs to individuals who demonstrate special aptitude and ability.

Third, the higher education community should work with those who are already teaching in the schools to improve both their skills and the understanding of what needs to be done to improve basic skills education.

Actions To Be Taken

1. Four-year colleges should establish and enforce admission requirements that specify minimum units of high school course work in English, mathematics, the natural sciences, social studies, foreign languages, and history, or demonstrated equivalent knowledge and skills. As open access institutions, two-year colleges should provide compensatory programs for students they admit whose education has not achieved equivalent preparation.
2. Colleges should specify minimum levels of basic skills proficiencies and academic accomplishment required for graduation and should review their curricula for possible revision where needed to assist students to meet these graduation requirements.
3. Colleges with teacher education programs should prepare new teachers to develop pupils' basic skills proficiencies by emphasizing the importance of these skills in all subject matter courses. Specifically, colleges should review and define the curriculum for pre-service teacher education to meet the objective of improving

basic skills proficiencies, should limit admission to teacher training programs to able students who have themselves attained high levels of proficiency in the basic skills, and should make the teacher training curriculum a demanding one.

4. Colleges should receive support to provide in-service training for elementary and high school teachers in basic skills instruction. Such training programs should include specific information on the most prevalent skills deficiencies found among entering college students and should provide instruction in the most promising teaching techniques.
5. Institutions offering programs in educational administration should review curricula with a view to emphasizing the responsibility of school administrators to support effective instruction and to evaluate teacher performance.

College Basic Skills Testing and Remediation

In 1977 the Board of Higher Education established the New Jersey Basic Skills Assessment Program in order to assess the nature and magnitude of basic skills deficiencies among entering freshmen and to assist New Jersey colleges and universities in placing students in appropriate courses.

The Basic Skills Council appointed to implement this program developed appropriate testing instruments and procedures which are being used to assess the skills proficiencies of entering freshmen at all public institutions and several independent institutions that have chosen to participate. In its most recent annual report to the Board, the Council estimated that of the 47,700 freshmen tested for the fall of 1979 only 23% clearly demonstrated proficiency in verbal skills, 30% clearly demonstrated proficiency in computational skills, and 11% clearly demonstrated proficiency in elementary algebra. These numbers were virtually unchanged from the previous year of testing.

Clearly then, a significant proportion of students who enroll in New Jersey colleges and universities need special assistance in reading, writing, and mathematics in order to develop the proficiencies expected in regular college courses. It is essential, therefore, that participating colleges test all entering students as defined by the Board of Higher Education and the Basic Skills Council so that those who need remediation may be identified and placed in appropriate courses. Determination of the level of preparedness required for any particular program remains, of course, a matter of faculty judgment. New Jersey's colleges have no alternative but to provide well-designed remedial programs

for all admitted students who require such help. Such programs are necessary not only for the welfare of individual students, but also for the continued academic integrity of the entire college curriculum.

Provision of adequate remedial services for large numbers of students will require a major commitment of resources. The extent of the remedial effort will vary among institutions, depending upon the needs of their students and the level of proficiency required to meet academic standards. Whatever the size of the program, however, effective skills instruction demands intensive work with individual students. Moreover, skills programs require support services such as tutoring and writing and mathematics laboratories, in addition to regular classroom instruction. Because colleges are unlikely to fund such disproportionately expensive programs out of their regular instructional budgets, which were not designed to carry that burden, special short-term funding should be made available to those colleges which can meet this obligation responsibly.

A final component of each college's basic skills effort should be an objective evaluation of the character and effectiveness of its remedial programs. The Basic Skills Council has been charged with the task of assisting participating colleges to carry out such evaluations and with the responsibility to report the results to the Board of Higher Education.

Use of the testing program should provide the Board of Higher Education with the data necessary to assess the extent of the continuing need for remediation in the colleges. By continuing the testing program the Board will have comparable data from year to year which, along with reports prepared by the Basic Skills Council, will assist it in formulating appropriate policy in this area.

Eventually it should be possible for colleges and universities to scale down or phase out such programs as the elementary and secondary schools' effectiveness in skills development improves.

Actions To Be Taken

1. The New Jersey Basic Skills Assessment Program should be continued, and adequate funding should be provided to insure its continuance for the foreseeable future.
2. The public colleges should continue to administer the New Jersey College Basic Skills Placement Test to all admitted students as defined by the Board of Higher Education and the Basic Skills Council, and they should use the results of the test to place students in appropriate courses.

3. Statewide results of the New Jersey College Basic Skills Placement Test should be reported annually to the Board of Higher Education in a way that will permit the Board to make comparisons of statewide performance from year to year and to judge whether the problem of basic skills deficiencies is growing or diminishing.
4. Statewide results of the New Jersey College Basic Skills Assessment Program should be used to address the problem of basic skills deficiencies by providing management data for allocation of resources to meet educational needs and by serving as a point of reference for cooperative basic skills ventures between the Department of Higher Education and the Department of Education.
5. The colleges and universities should provide effective skills instruction to all the skills deficient students they admit.
6. Students in need of remediation should be required to demonstrate proficiency in basic skills prior to enrollment in courses requiring such proficiencies.
7. The Board of Higher Education should review the admission policies of public colleges that admit skills deficient students but do not provide remediation for them; institutions that do not provide such services to skills deficient students should be subject to appropriate funding sanctions.
8. Basic skills testing should be made available to students of limited English proficiency through the translation of the computation portion of the Basic Skills Test to Spanish and other applicable target languages and through the adoption of a uniform English as a second language test.
9. The funding formula for public four-year institutions should provide increased funding for skills courses to those colleges which: provide skills instruction for all admitted students who are skills deficient; establish rigorous standards of skills proficiency for those students to meet; set reasonable time limits within which students must meet those standards in order to continue at the college; establish clear methods for measuring student achievement of the stated standard of proficiency; and report to the Basic Skills Council their skills standards, time limit, and achievement measures.
10. The differential funding formula for remedial courses

proposed by the Commission to Study the Mission, Financing, and Governance of County Colleges should be implemented as soon as possible. Only those remedial courses that do not bear graduation credit and that do not cover college-level work should be eligible for enriched funding

11. The funding formula for skills instruction in the public four-year colleges should be revised to support those non-course activities (such as writing laboratories, tutoring services, and program evaluation) that are necessary to the success of remedial programs.
12. All public colleges should evaluate the character and effectiveness of their remedial programs and report the results of their evaluation to their governing boards and to the Basic Skills Council.
13. Beginning in 1981-82 the Board of Higher Education should incorporate the evaluation of basic skills programs in its budget review process.

Basic Skills Testing and the Educational Opportunity Fund Program

In order to achieve their enrollment goals, institutions will place new emphasis on increasing retention levels. This has important implications for disadvantaged students with special needs. The problem of high attrition can be addressed directly by providing more effective and more extensive student support services and by improving the quality of instruction both in basic skills and in regular academic courses.

An important aspect of this effort is the Educational Opportunity Fund (EOF) Program. With remedial and developmental education still in evolution, the Educational Opportunity Fund's twelve year experience in providing such assistance, principally during its summer programs, should be drawn upon as comprehensive services for academically underprepared students are planned. While students in the EOF Program have basic skills deficiencies, their need for special assistance goes beyond such remedial and developmental assistance. The EOF Program was designed to meet all the needs of disadvantaged students, not simply to remediate their deficiencies in basic skills. Therefore, the EOF Program should focus on curriculum development and effective innovative instructional methods to assure its students both access to and success in higher education. Also essential in this effort are research and evaluation. Because EOF is involved in what, in many instances, is *terra incognita* in higher education, continuing evaluation of innovative program models characteristic of this program is crucial to assuring efficient and effective delivery of services to students.

In addition, the Educational Opportunity Fund Program should, to the extent possible, integrate its activities with other opportunity programs, like Upward Bound and Talent Search, as well as community based organizations with an educational component, like ASPIRA and the Greater Newark Urban Coalition.

Actions To Be Taken

1. Campus based in-service training should be provided for EOF and basic skills personnel on a continuing basis.
2. A study should be conducted of the feasibility of establishing campus-based intersession programs, using the EOF summer program model, for freshman students admitted in January.
3. The Department of Higher Education should explore alternative EOF funding procedures which would improve the effectiveness of fund allocations in support of students and the provision of services, e.g., a unitary allocation of EOF funds rather than the current separation between Article III and IV.
4. To assure a comprehensive and efficient delivery of basic skills programs services, very close articulation between EOF and basic skills should be developed at the institutional level, and EOF (with the further development of its evaluative procedures of campus operations) should work closely with the basic skills effort statewide.
5. The above should be the basis on which intensive study is undertaken of the restructuring of EOF programs to develop academic support systems which are as effective as current EOF counseling support systems. This would assure that the cognitive as well as the affective needs of EOF students would be addressed.
6. The Department of Higher Education should continue to identify and encourage the development of effective experimental instructional modes, recruitment strategies, student evaluation systems, and student success prediction models.
7. The Department of Higher Education should maintain information for the use of all EOF personnel and should coordinate interagency research projects relating to disadvantaged students.

8. The Department of Higher Education should develop guidelines for the funding of institutional research projects on instructional models for disadvantaged students and should conduct technical assistance workshops for institutional EOF personnel.

Coordination with the Department of Education

Development of basic skills proficiencies is a legitimate concern of the entire educational community. Therefore, the Departments of Education and Higher Education should work together on a variety of issues where each has important concerns and responsibilities. Nowhere are coordination and cooperation more important than in the area of basic skills development. While colleges should meet the immediate needs of students, every effort should be made also to insure that future generations of students entering college will need less remedial assistance in the basic skills. From a pedagogical point of view, these skills can best be learned and should be taught at an age long before college entry. Basic skills instruction should not be viewed indefinitely as a major function of the higher education sector. Therefore, the welfare of individual students, of educational institutions, and of society generally demands that the Departments of Education and Higher Education combine their mutual concerns in the areas of basic skills testing, teaching, and program assessment and that they cooperate in implementing programs designed to reduce the incidence of skills deficiencies in high school graduates.

Actions To Be Taken

1. Rather than relying heavily on compensatory and remedial programs, basic skills development should be emphasized throughout the regular curriculum in the elementary and secondary grades; all teachers should emphasize the importance of basic skills in all subjects.
2. Schools should encourage teachers to devote in-service training to improving the teaching of basic skills. The training programs should be organized and conducted by the local schools and should be staffed by individuals experienced in skills instruction. The New Jersey Basic Skills Council should be asked to develop criteria that can be used by schools for identifying, recruiting, and evaluating college faculty who could most effectively work with schools in organizing training days, who could provide information on skills deficiencies found among entering students, and who could bring to bear insights into effective skills instruction.
3. Results of the New Jersey Basic Skills Assessment Program will continue to be shared with the Department of Education and local school districts in order to provide information

relevant to the design of in-service training programs and to encourage cooperative efforts between secondary and postsecondary institutions.

4. Colleges should work with high schools to create "preparation for college" programs, either as part of the senior year or in the form of summer programs. Colleges should explore the feasibility of opening residential facilities on their campuses to high school students and their teachers during the summer months for concentrated courses in basic skills that should articulate with the curriculum of the regular school year.
5. School administrators should be urged and encouraged to strengthen the teaching function through their allocation of resources and by support of teachers' authority in order to maintain an environment conducive to learning in their classrooms. Training programs for present and future school administrators should emphasize their responsibility to evaluate teacher performance as another means of encouraging effective teaching.
6. The Departments of Higher Education and Education should conduct and support research directed to the teaching/learning process in contemporary schools with a view to identifying sources of difficulties in basic skills, developing corrective strategies, and recommending changes in curriculum, in technique, in behavior, in training, or in staffing that might contribute to improved learning and performance. Whenever possible such studies should be conducted jointly by the two Departments.

Bilingual Education

From the early twentieth century, with the arrival in this country of large numbers of people from southern and eastern Europe, the implications of the education and acculturation of linguistic minorities have been widely debated, both in philosophical and practical contexts. Despite this long-standing debate as well as the passage of Federal and State legislation that recognizes "language rights" and the establishment of bilingual education programs in the public schools, the issues continue to be unresolved. Consensus has not been reached among educators, legislators, and community leaders with respect to defining the most appropriate methods of educating college students whose ability to use the English language needs development.

The problem, therefore, remains for many people, some of whom presently are citizens of this country, whose efforts to share in the opportunities of this nation are constrained by limited English language proficiency. There

are, for example, twelve million persons of Hispanic origin who reside in the United States, and their number is expected to grow rapidly during the next decade. Many of them, as well as members of other ethnic groups, do not speak English as a first or native language. Public education should be a vehicle to help them acquire the English language skills necessary for entry into the mainstream of American economic and cultural life.

In New Jersey, 135 local school districts presently conduct bilingual programs for elementary and secondary school students and 19 institutions of higher education offer bilingual teacher preparation programs as well as other forms of instruction for persons whose proficiency in the English language is limited. Although many instructional approaches may be used, the most fundamental goal of these programs is to enable students to become proficient in the English language but not to sacrifice the values of their own heritage. The acceptance of differences is a cultural premise upon which the society of the United States rests; at the same time, the unity forged from this diversity is one of the transcendent strengths of our nation.

Our country has an undeniable stake in preparing all who live here for productive and effective lives and has much to gain from the civic, social and cultural contributions of persons of other backgrounds. Although differences of opinion exist and the lineaments of a full course of action remain to be resolved with respect to programs of instruction designed to improve the English language skills of persons for whom English is not a first or native language, the importance of such programs to many of our citizens is evident. The recommendations that follow recognize the value of providing educational opportunities for persons whose first or native language is not English and of offering courses of instruction that are appropriate to their needs and aspirations.

Actions To Be Taken

1. It is important to test the efficacy of various programs designed to enhance the linguistic and academic development of students whose proficiency in the English language is limited. The information derived from the recommended actions that follow will help to inform and refine further the commitment of the Board and Department of Higher Education to the support and provision of these programs. Recommendations in this regard should be developed by the Department of Higher Education and presented to the Board at the earliest possible opportunity.
2. The Department of Higher Education should issue requests for proposals designed to test on a pilot basis the relative effectiveness of transitional models of bilingual education, on the one hand, and English-as-a-second language (ESL) approaches, on the other, as the means of improving the English language proficiency of students for whom English

is not a first or native language. Awards of support for these comparative studies should be based on balanced criteria of programmatic comprehensiveness, instructional quality, and cost effectiveness. The Department recognizes that there are existing programs at New Jersey institutions which should be encouraged to participate in this effort.

3. Public institutions of higher education, in cooperation with the Department of Higher Education, should develop minimum requirements for these programs. Programs presently in operation should be reviewed, and continued approvals should be based on the potential of the programs and the ability of institutions to meet minimum requirements. In no instance should bilingual or ESL programs be approved to extend beyond the second collegiate year of student enrollment. Students desirous of extending their non-English language instruction beyond this point should be encouraged to do so through enrollment in the upper division courses normally offered by collegiate departments of modern or foreign languages.
4. The Department of Higher Education should continue to fund and organize training institutes to study bilingual and English language instructional theories and practices and their practical application to bilingual and associated English language post-secondary instructional programs.
5. The Department of Higher Education should encourage the establishment of intensive seminars within graduate teacher education programs to provide specialized training for faculty members and administrators of bilingual and associated English language instructional programs.
6. The Department of Higher Education should undertake the development of a comparable form of the computation portion of the New Jersey College Basic Skills Placement Test in Spanish; the test is administered to entering college freshmen for the purpose of assessing their skills proficiencies and placing them in appropriate curricula.
7. The Department of Higher Education should encourage and assist all institutions of higher education offering bilingual and associated English language instructional programs to maintain accurate information on the status of students for whom English is not a first or native language.
8. The Department of Higher Education should encourage close coordination and articulation among bilingual instructional programs with various other programs such as international and area studies and foreign language studies.

Institutional Resources

Libraries

The nature of the holdings and services of academic libraries directly affects the quality of instruction, scholarship, and research at New Jersey's colleges and universities. Because they constitute a vital resource for students, faculty, staff, and the community at large, it is important that academic libraries assess their capacity to respond to the expected demands for their services in the years immediately ahead.

The past decade has seen an explosion in the types and amounts of printed material available for purposes of scholarship and research that poses serious problems for academic libraries in terms of acquisition and processing costs, storage space, and circulation systems. The cost of books and periodicals alone is making it increasingly difficult for libraries to expand or even keep up to date. In addition, the introduction of advanced technological systems to support teaching and assist learning has prompted a diversification of holdings and services. In addition, non-print media and materials represent a new and increasingly costly responsibility of many academic libraries.

It is quite apparent, therefore, that there are a number of critical issues with which academic libraries in New Jersey must contend. These include collection development, non-print media in academic libraries, access to facilities and collections, inter-institutional cooperation, automation, funding and planning.

Collection Development

The term collection development refers to the selection of new library materials, the continual evaluation of collections, and the removal of materials no longer needed by the library. The most immediate and basic responsibility of every library is the development of print and non-print collections. Selections cannot be made haphazardly especially in a period of scarce resources and changing educational needs. Although the prime responsibility for assuming leadership in collection development rests with the library staff of each institution, faculty participation is critically important in the development of policy that will enable the library to provide the necessary resource support for new and continuing educational initiatives of the institution. Unfortunately, however, collection development policies are not well enunciated in many of New Jersey academic institutions.

Collection development has statewide implications since the location of resource materials in various collections within the State can affect the acquisition policies of all New Jersey academic libraries. Two basic obstacles inhibit obtaining the information needed to make informed local decisions. First, there presently is no statewide inventory of resource strengths in academic and

other libraries and, as a result, cooperative collection development efforts cannot be initiated. In addition, there are no state-wide guidelines for the evaluation of academic library collections which would assist libraries in the evaluation of their collections. Both the establishment of guidelines and the development of an inventory are particularly necessary to the development of responsible and responsive acquisition policies.

Non-Print Media in Academic Libraries

While books and periodicals remain central to instruction, non-print media such as films, radio, television, and audio/video cassettes are providing additional instructional approaches that strengthen institutional ability to meet the educational needs of both traditional and nontraditional student populations. Media technology makes possible a variety of instructional modes such as video tape and disc, loop films, audio cassette, integrated audio/video, independent learning programs, and computer-assisted instruction which are of special importance to the educationally and culturally disadvantaged and to individuals with learning disabilities and physical handicaps. In addition to its usefulness to special groups of students, it is well documented that all students benefit through exposure to a full range of educational media. Clearly, libraries are most able to maintain and disseminate audio-visual materials and equipment from central locations, thereby making them more accessible throughout the college community and, therefore, the collections of non-print resources should be regarded as integral elements in every academic library.

The question of local campus production of materials that are unavailable through interlibrary or commercial channels is one which should be met by each institution as it considers instructional priorities and the role audio-visual material should play in the educational program. The appropriateness of the library's functioning as a "production center" will vary from campus to campus.

Actions To Be Taken

1. The academic libraries at the public institutions, in cooperation with faculty and administration, should establish written collection development policies. The policy statement of each library will reflect the specific situation of each institution, but should include as a minimum the following elements:
 - a. criteria for the selection, evaluation, and weeding of all print and non-print collections; and

- b. guidelines for the development of collections that will meet instructional and classroom needs by providing an adequate range of separate titles to meet course requirements and sufficient duplication of titles in high demand that will meet basic needs of student and faculty research required by the degree programs of the institution. The guidelines should reflect institutional awareness that the basic needs of each academic institution ordinarily must be met by its own library and not through borrowing from other libraries. For it is not the intention of resource sharing to permit an academic library which does not meet the basic needs of its primary constituency to overcome this inadequacy by relying on the resources of other libraries. Each institution should review its collection development policy on a periodic basis.
2. Each academic library should assume a basic responsibility for acquisition, maintenance, and dissemination of non-print materials on campus. This means that there will be a need for continuing programs of acquisition of audio-visual materials as part of the overall collection development policy and for earmarking funds as appropriate for this purpose.
3. Each academic library should provide facilities on-site for listening to and/or viewing all non-print materials in the library's collection, and the New Jersey State-wide Interlibrary Loan Code should be modified to include the lending of non-print materials.

Access to Facilities and Collections

The combined holdings of the libraries of the State's colleges and universities, both public and independent, represent a valuable resource which will necessarily play an increasing role in serving the State's growing educational, research, and informational needs. New Jersey's academic libraries should work toward making their resources available to all who need them, both within the higher education community and among the general public.

At the present time, academic libraries provide access and resources to New Jersey residents in the following ways: libraries offer materials through interlibrary loan to other academic libraries and to public libraries; most libraries allow use of their facilities and use of their materials within the library by members of other colleges and by members of the general public; some neighboring libraries or libraries serving similar clienteles grant borrowing privileges to members of each other's college communities; and some academic libraries, particularly at the community col-

leges, allow the general public to borrow materials, in some cases upon payment of an annual borrower's fee.

Significant problems, however, still need to be addressed. These include: the possible diminution of service to the primary institutional constituents of students, faculty, and staff; the additional depreciation and occasional losses brought about by a larger constituency; and the exacerbation of the present problem of inadequate seating capacities.

Action To Be Taken

1. A written policy on access should be developed by the academic libraries at the public institutions which should be based on the access policy guidelines developed by the Association of College and Research Libraries. Each statement should be available publicly and reviewed periodically by the institution.

Inter-Institutional Cooperation

The new technology has enhanced the ability of the academic library to give more effective service and to create necessary links with other libraries to expand access and avoid unnecessary duplication of resources.

A good example of inter-library cooperation is the automated circulation and inventory control system presently being planned by the state colleges. This system, which will make it possible for a patron at one state college library to learn the holdings of another state college library, will facilitate interlibrary borrowing and may even lead to direct borrowing of library materials among participating institutions.

Access to periodicals is especially important for students and researchers alike, and the New Jersey Union List of Serials has proved to be an important tool for those libraries using it. Unfortunately, the List is not fully expanded to include all titles, and not all colleges and universities in the State contribute their holdings to the List. A complete inventory would help libraries to avoid unnecessary duplication of periodicals which represent an increasingly costly commitment in overall library resource materials budgets.

Although interlibrary loan activity at the present time does not seem to warrant an extensive rapid communication and transportation system among the various academic libraries, such a system should certainly be kept in mind as academic librarians consider ways of further cooperation. In addition, developments in telefacsimile, while clearly not cost-effective at the present time,

might in the future become an important way of transmitting certain types of information quickly among libraries.

Actions To Be Taken

1. New Jersey academic libraries should explore opportunities for cooperative projects on a regional basis. Sharing of computer hardware for acquisitions and cataloging would seem to be one appropriate place to start.
2. Efforts should be made to develop a statewide data base of monograph holdings to support inter-library lending and to allow more cost-effective acquisition of little-used and expensive resource materials. To accomplish this, academic libraries as a first step will have to convert their catalogs to machine-readable form.
3. All academic libraries in the State should consider contributing to the New Jersey Union List of Serials.

Automation: A Key to Efficient and Effective Academic Library Service

Academic and other types of libraries throughout the world are in the midst of a technological revolution. As a result of advances in the last decade, the state of the art has moved from the old pattern of total manual operations to the development of sophisticated automated systems which affect all aspects of traditional library operations. In the area of technical services, automated circulation and inventory control systems, nationwide data bases, automated catalogs using either computer output microfilm (COM) or on-line terminals, and on-line acquisition systems have become increasingly important.

Libraries everywhere will have much to gain by participation in library bibliography networks which greatly extend access. Such national service networks as OCLC (Ohio College Library Center, Inc.) and RLIN (Research Libraries Information Network) and other "utilities" provide bibliographic information for cataloging and interlibrary lending. Commercial companies are developing turn-key systems which provide automated services for individual libraries and enable linkages with other institutions regionally or nationwide. Undoubtedly the various systems will tie in with one another, and it is only a matter of time before full cataloging information could be inserted in the same data base. When this comes to pass, a card or COM catalog will no longer serve a useful purpose, for patrons will be able to utilize on-line computer terminals for the bibliographic monograph information they require.

Finally, as more institutions begin to use various computerized systems and networks, it becomes even more important to develop compatible programs whenever possible.

Actions To Be Taken

1. The Department of Higher Education should explore ways of making special purpose grants for the purchase of required services for conversion of holdings to machine-readable form and the minimal automated equipment required for using national data bases for cataloging, interlibrary loan, and acquisition purposes.
2. With the advent of commercially available data bases which make it possible at reasonable cost to access information from thousands of journals, all academic libraries should move quickly to acquire necessary hardware to provide automated bibliographic reference services and to develop the search skills necessary to use these services effectively.
3. Academic librarians should work toward achieving compatibility of automated systems within the State.

Funding

Inflation has been especially damaging to academic libraries. A recent report showed that the Higher Education Price Index registered an average yearly increase of 8.1% in total college costs since 1971. During this same period, the average yearly price escalation was 17.5% for American periodicals and 11.6% for hardcover books.² The cost of certain specialized journals in such areas as the natural sciences has increased at an even greater rate. While publication of print and non-print materials continues to be extensive, the declining purchasing power of the book dollar makes it increasingly difficult for libraries to maintain strong collections responsive to the demands of their institutions.

Modifications made to meet the changing needs of students for the decade ahead and current and future developments in academic libraries necessitate the additional acquisition of non-print materials and will require the added expense of such services as

²Chronicle of Higher Education, January 22, 1979, p. 1.

automated reference services and automated circulation and inventory control systems. Presently used funding arrangements play special havoc with academic libraries since students use library services as individuals regardless of the course loads they take. As a consequence, reader stations in the library will not be affected by enrollment changes to the same degree as classrooms. In addition, it would not be wise to assume that changes in enrollments will significantly affect the size of collections needed. The need for new information will not diminish. New methods of library funding should be developed which are more responsive to the realities of the pressures on the academic library and supportive of institutional information needs.

Action To Be Taken

1. The Department, in consultation with the institutions and the academic library community, should review the present funding arrangements for academic libraries, and recommend a funding method that responds more effectively to rising costs of library materials, automation, services, and increased access.

Cooperation and Planning

There is a clear need for Statewide cooperation in planning the optimum use and development of library services in New Jersey and for the establishment of a formal mechanism that will permit the Department of Higher Education and the State Library, which is charged by law with the responsibility of maintaining "an advisory service for public libraries, school libraries, libraries of institutions of higher education . . .," to explore ways of cooperation between the two agencies.

Actions To Be Taken

1. The Chancellor should appoint a Statewide committee of academic librarians which, with the participation of special and public librarians, faculty, and other college personnel, as appropriate, would:
 - a. develop an inventory of resource strengths in New Jersey academic libraries and other libraries with strong collections and make recommendations to the Board and Department of Higher Education regarding guidelines for the evaluation of academic library collections which should be used in the continuing development and review of individual collection development policies;

- b. study existing resources and make recommendations regarding the feasibility of developing film/video tape circuits reaching to all parts of the State, would determine whether special funding to libraries with strengths in these materials could be offered either by State subsidy or by library contributions to develop film/video tape circuits, and would develop rules and guidelines beyond those presently in place for interlibrary loans; and
 - c. would undertake a survey of the pattern of patron use of libraries for each academic institution and make recommendations for optimum access as appropriate by individuals, including college faculty, to academic library resources throughout the State.
2. A formal mechanism should be established that will allow and encourage the Department of Higher Education and the State Library to work cooperatively toward the development of improved library service in New Jersey.

Student Services and Facilities

The quality of student services and facilities on a campus is as important to the educational experience of students as the quality of the academic programs. The efficient processing of forms for admission, transfer, financial aid and registration, the availability of housing and student centers, and the adequacy of counseling, academic advisement, tutoring, remedial and health services, are central to the students' sense that the institution cares about their needs and well-being. They play a major role in students' adjustment to college life and in creating an environment conducive to successful academic performance.

The achievement of the enrollment goals for the decade ahead will depend greatly on improvements in student service areas, such as increasing efforts to recruit in-state and out-of-state students, giving greater attention to the individual potential of applicants during the admissions process, reducing barriers to transfer students, and providing the special services necessary to attract more non-traditional students. Adequate student facilities and active faculty involvement in student affairs as well as adequate student services are also essential in raising the rates of retention to levels necessary to meet the enrollment goals. The retention of students in four-year colleges has been shown to be directly related to their interaction with faculty, their involvement in campus activities, and most important, their residence on campus during the freshman year.³ In addition, there is evi-

³ A. W. Astin, Four Critical Years (San Francisco: Jossey-Bass, 1977).

dence that the effectiveness of academic departments' remedial programs, which are crucial to the academic success of students with deficiencies in the basic skills, depends on a close relationship to strong student counseling services.

The major areas of concern are improving the delivery of student services on the campus, improvements in Statewide coordination, information and funding, and meeting student housing needs.

The Delivery of Student Services on the Campus

The role and scope of the activities of student affairs offices on the campus have changed considerably in recent decades. Originally introduced to serve the institutional need to regulate student behavior and conduct, the role of student services has shifted to place greater emphasis on student needs, and the scope of activities has broadened to include the personal, social, and emotional development of students.

The change in focus was accompanied by a change in the role which faculty members played in the delivery of student services. Unfortunately, as faculty and student affairs staff have become more specialized, the gap between the role of the faculty and that of the student affairs professional has become wider. Although student affairs professionals perceive most of their activities as an integral part of teaching and learning, faculty tend to consider these efforts as not being "academic," and therefore of lesser value in the educational process. It is critically important that substantial numbers of faculty and administrators reemphasize the collegiate goal of educating the total student, by recognizing student affairs as an integral part of the educational experience and investing more of their time with students.

Career planning and placement are essential components of any educational program, and students should be encouraged to make use of career counseling and information throughout their college years rather than concentrating their efforts on job placement a few months before graduation. Colleges are urged to establish career development programs, internships and cooperative education arrangements with businesses to help students to identify their career goals.

Changes in the composition of the student population during the next decade will require constant adjustments in the provision of student services to meet changing student and institutional needs. Institutions are encouraged to survey periodically the needs of their students and to establish a review process appropriate for the evaluation of the variety of student services.

Actions To Be Taken

1. Liaison groups between student services staff and interested faculty should be established at colleges to facilitate the integration of instructional and student support services. Examples of the cooperative activities which such groups could sponsor are orientation programs for new students and in-service training programs.
2. Colleges should encourage faculty to take an active part in academic advisement and to serve as advisors to student groups.
3. In order to motivate and reward faculty for their active participation in student affairs, institutions should recognize this service in their evaluations for promotion and increments.
4. Colleges should establish broad career development programs, including non-credit or credit bearing courses, in career planning and opportunities for work experience through internships and cooperative education arrangements.
5. Institutions should periodically conduct surveys and assessments of their students' needs. They should also develop and implement a review process designed to evaluate the effectiveness of various student services and to suggest means of improvement.

Statewide Coordination, Information, and Funding

With the major exceptions of providing financial aid administration and Statewide information services, the Department of Higher Education's contribution to the development of student services has been very limited. Yet it is the student services office, especially the admissions and registrar's offices, which bear a major responsibility for responding to the Department's requests for data on students. There is a strong feeling among student service administrators that the relationship has been too one-sided; that while the Department makes constant and sometimes unreasonable demands on their staffs for timely and accurate data reports, it has given them little support in return and has not established adequate channels of communication for responding to their needs and concerns.

The Department should work to improve this relationship by reviewing its data demands, designating staff as a liaison for student services, and assuming a leadership role in developing ways to coordinate recruitment and placement activities and to facilitate the sharing of resources and information among institutions.

The changing character of the student population during the next decade to include higher proportions of part-time and non-traditional students requires a reconsideration of student service funding. Minorities, women, older adults, handicapped persons, and skills-deficient students with high potential will require more special services. Increases in part-time students will mean that even if the number of "full-time equivalent" students remains the same, there will be more individual students to be served.

Specific recommendations for improved funding for student services are developed in the section on financing higher education. Among these are: changing from an FTE to a weighted headcount funding basis where headcount is a more appropriate measure of effort; developing formulae for support activities based on actual costs and economies of scale; and allocating additional funds for support services for new and diverse student groups.

Actions To Be Taken

1. The Department of Higher Education should review with the appropriate institutional staff its current system of gathering data on students.
2. The Department should designate staff with a primary responsibility for liaison with institutional student service offices and for promoting the awareness of student needs.
3. The Department should continue its efforts to promote access to New Jersey institutions through the Education Hotline, the Thomas A. Edison Counseling Network, and the distribution of periodically updated editions of the Going to College in New Jersey posters and handbook.
4. The Department should take a leadership role in developing coordinated approaches to student services. Specific areas that require attention are the development of mechanisms to share information on successful programs or new techniques, a study of the feasibility of establishing a Statewide employment information retrieval system for student placement offices, and the promotion of inter-institutional sharing of resources and services.

Meeting Student Housing Needs

The provision of housing adequate to meet undergraduate student needs is essential to enhancing the quality of student life on the

campuses of our four-year colleges, to providing the opportunity for students from all parts of the State to choose colleges for their selected programs of excellence, and to increase the diversity of the undergraduate experience by attracting more students from other states to New Jersey institutions.

In 1978 the Department of Higher Education prepared an assessment of student housing at New Jersey's public four-year colleges in comparison to student housing available in comparable states at forty-five institutions offering the same level of degrees and located in cities or towns of similar size. The study concluded that the number of beds available at most New Jersey public institutions is lower than at comparable institutions in other states, that the rents charged at New Jersey institutions are higher, and that those colleges located in smaller communities have the greatest need for student housing.

In addition to the scarcity of housing at certain institutions, another factor which has arrested their development as residential colleges is the high rents students pay for whatever housing that does exist. Like most states, New Jersey finances student housing by relating rents to the overall capital and operating costs. Since most other states draw a large base of rent from older, debt-free housing, they have been able to hold student housing assessments down and spread their costs evenly throughout their systems of higher education. In New Jersey, where most student housing is of recent origin and was constructed in a period when building costs were exceedingly high and where little debt-free housing exists, continued reliance on this method of financing has caused student rents to soar. Unless this is remedied in an era when construction, energy, and labor costs continue to escalate, New Jersey students wishing to live away from home may be forced either to go to colleges out-of-state or commute from home out of financial necessity.

If the State were to build housing to reach modest levels somewhat below the median ratios in comparable states, a conservative construction effort at the institutions with the highest housing demand appears in the chart on page 130.

In a resolution of April 20, 1979, the Board of Higher Education adopted guidelines for planning and financing new student housing at the New Jersey four-year public institutions which included this table. These guidelines will be updated in accordance with changing enrollment figures. The recommendations for financing student housing are presented in the chapter of this Plan on financing higher education.

In addition, consideration should be given to the need for housing in Newark and Camden for graduate students attending institutions in these urban areas.

<u>Institution</u>	<u>Fall 1978 Enrollment</u>	<u>Suggested Ratio</u>	<u>Beds Authorized</u>	<u>Existing Beds</u>	<u>Deficit</u>
NJIT	3,026	.15	454	208	246
Rutgers					
Camden	3,319	.15	498	0	498
Newark	5,523	.15	828	0	828
Jersey City	4,613	.15	692	170	522
Kean	6,357	.25	1,589	1,016	573
Montclair	8,338	.25	2,085	1,990*	95
Paterson	6,890	.25	1,723	518	1,205
Glassboro	6,611	.40	2,644	1,896	748
Ramapo	2,489	.40	996	638	358
Stockton	3,794	.40	1,518	1,024	494
	50,960		13,027	7,460	5,567

*Includes 640 beds being designed

Computers and Data Processing Services

The computer has become a fundamental resource for instructional, research, and administrative programs. Instructional applications of the computer include its use as a tool for experimentation, calculation, and demonstration in a variety of disciplines, as well as in computer science curricula. Computer resources and technology are particularly important in all the mathematical and physical sciences, the medical and biological sciences, business and management, and many of the social sciences. Since computer technology is a rapidly growing and changing field, it is imperative that plans be developed for the acquisition and use of computer systems for the development of software and for delivering, sharing, and funding computing resources during the 1980s.

There are three major areas of concern: ensuring that computer resources are responsive to institutional needs; improving coordination of systems for delivery of computing services; and establishing general guidelines for comprehensive Statewide planning in the field of computers and data processing services.

Responsiveness of Computer Resources

Each institution's computing system must be responsive to the present and future needs of the academic community and, in the case of the public institutions, to the local community which it serves. Therefore, users, including faculty, administrators, and students, should be largely responsible for planning and articulating computer services at each institution. Minimally, institutional planning processes should address computer functions in instruction, research, administration, and public service.

Instruction encompasses the broadest set of functions and the largest user population of all four categories. Because the computer has assumed a critical role in contemporary business, industry, science, and scholarship, almost all students can expect to encounter computer technology at some point in the pursuit of either their careers or of graduate education. Since students have various levels of needs and interests that require different types of computer training, a variety of programs must be developed.

Research users represent a much smaller population than instructional users. Nevertheless, their needs can exceed the total required by all instructional users, especially in institutions where sophisticated research is conducted. Responsiveness of computing to these users, therefore, requires resources (hardware, software, time) distinct from those required by other users.

Administrative users have fewer varieties of functional requirements than instructional users, but these requirements are typically more extensive since they involve repetitive management functions. This increased complexity involves much longer periods per task performed than those of all other users. The characteristics of these tasks differ in almost every aspect of resource consumption, e.g., more data storage, longer processing cycles, and more sub-tasks than the levels of all other users. Responsiveness in this area is characteristically production-oriented with a predictable time-frame different from that of other users.

Public service users' needs can extend over the entire spectrum represented by all combined functions for all users. Responsiveness of computing to these users should be made in light of overall needs.

Actions To Be Taken

1. Each institution should develop a plan for local computing activities at a level appropriate to the size and mission of the institution.

2. Each institution should articulate definitive programmatic expectations for its computer activity and particularly for the role of academic computing.
3. Each institution should attempt to assure that every student has an opportunity to use appropriate computing facilities to achieve at least some minimal level of computer literacy.

Coordination of Delivery Systems

Delivery systems should be improved and coordinated so that available resources are used most effectively. This will require the local provision of certain computing capabilities and the regional or Statewide sharing of others.

For many years, economies of scale provided one justification for the centralization of computer services in large facilities. It is now generally agreed, however, that development of microcircuitry has changed this situation and that the rationale for a large shared facility cannot be based, wholly, on such an argument. That is not to say that such central facilities are no longer justified; rather, economies of scale must be obtained from personnel costs or other non-hardware attributes.

Rapidly changing technology and increasing expertise make it feasible and desirable to provide distributed, specialized, and local facilities for instructional, administrative, and research computing functions. Delivery systems in every institution will likely become more distributed in the very near future. Centralized processors will remain a significant requirement on each campus, but local minicomputers and microprocessors will also be required to support all functional needs. Somewhat less emphasis on centralized processing will result for each institution, but centralized delivery systems will remain a significant part of the overall delivery system.

The importance of resource sharing and communication of technical matters about computing is generally understood. Obviously, sharing of resources should be rational and directed, and institutions should ascertain their own needs and determine which functions can be shared across institutional lines. Determining overlap among needs is the objective of planning for shared service delivery systems.

The Department of Higher Education is a central source of information for planning and policy making and a repository for stored computer data and should be able to meet its own data and information requirements so that the policy and planning needs for the system of higher education in the State of New Jersey may be satisfied with reliable and responsible computational services.

Many of New Jersey's institutions operate their own computers for reasons associated with the purpose, historical development, and special requirements of their scale of operations. Their resources range from small minicomputers and microcomputers that are used in a variety of applications to medium scale systems used exclusively for local administrative and academic purposes. The New Jersey Educational Computer Network (NJEEN) provides administrative and academic support and data processing services to institutions and to several educational service agencies as well. Presently a large number of New Jersey's institutions employ a combination of local equipment and telecommunications access to NJEEN to meet their academic and administrative requirements.

In addition, the Network governs a pool of resources that can be stored and develops technical and management procedures for establishing computer networks to which each principal voluntarily "commits" part of its computing resources and services. Because institutions will not share resources unless it is simple and financially attractive, the Network must be a service-oriented organization whose long term economic survival will depend upon the quality of its services and the competitiveness of its prices. In the next two to three years, the current centralized network configuration should become more distributed in nature, and shared services should be delivered from more than one node in its structure. Because of the variety of institutions that require general and special support services that are too expensive to provide locally, e.g., the state colleges, the Department of Higher Education, and certain other current users of NJEEN's services, a central processor and support structure must continue. This central delivery system could remain at the highest level in the hierarchy of all processors.

Network communications will become more important in this distributed environment. Because most institutional planners will be users rather than computer professionals, they will depend on information about hardware and software from central sources of expertise. Linkage processors from several vendors must be provided in order to allow common access to all services of the network.

In any revision of the Network "charter," it is important to clarify responsibilities of the user institutions and those of the Network. Clearly, the individual user institution must have sufficient autonomy in its academic mission in computing and its administrative data processing needs. On the other hand, experience with a shared central network facility is such that movement towards complete autonomy in computer matters is probably unacceptable and technically unwarranted.

Notwithstanding the continuing growth and development of the computing function, large populations of students, faculty, and

administrators remain unserved by contemporary computer technology and applications. In the area of expenditure of computing resources per student or aggregate resources committed to the computing function, New Jersey does not compare favorably with other states having related programs and similar institutional missions.

In general, good interactive computing facilities are better for instructional use than are batch computing facilities. Specialized, single purpose systems may be more cost effective for much of academic computing than are large-scale multi-function mainframes and should be explored before further investments in large mainframe computing for instruction are made.

While hardware resources indicate a real opportunity for distribution of processing in academic computing, software activities continue to grow at a rapid rate. Academic computing is not restricted to teaching about the computer, e.g., programming and computer science. A great deal of growth has occurred in computer applications in almost all disciplines. As a result, the growth of software functions for academic computing requires an increasing reliance on skilled support personnel and on proven software systems.

Software for academic users is becoming more formal and, with increasing sophistication, has come increasing reliance on quality software. Therefore, software costs for both academic and administrative computing are increasing at an alarming rate. The higher education system must devote additional funds to accommodate the increasing demand for computing and to meet increasing hardware and software costs.

The analysis of user functions for New Jersey higher education suggests that a high degree of centralization of all computing is not appropriate for the future. On the other hand, neither will complete decentralization meet projected user needs. As a general rule, each institution should have a substantial amount of discretionary freedom in computing, and shared services should not dictate the role of computing in each institution.

The predominant theme that should guide planning and policy making in the future is that the computer should come to occupy a place in higher education which may be compared in many ways with that of the library and the laboratory. It has become a basic and indispensable resource in assuring effectiveness in instructional, research, and administrative programs. Use of the computer, therefore, should be incorporated in institutional planning and operation with full recognition of its cost and its organizational and service impacts.

Planning for computer and data processing services must begin with a determination of needs of the institutions served. These

needs are not known in terms of hardware, software, personnel, and delivery systems, the language used to describe the past and present condition of computers and data processing in New Jersey higher education. In the future, these needs must be expressed in terms of instruction, academic research support, institutional management, and extending public service.

Each institution should plan for the use of certain emerging technologies, including telecommunications, special processors for data management, low cost microcomputers, and low cost memories in terminals. The emergence of low cost computer communications technology allows for the creation of alternative delivery systems which help to make possible the sharing of expensive facilities.

Actions To Be Taken

1. Each institution should develop a shared resources plan which should determine the long term organizational and financial direction of shared resources. Furthermore, each institution should seek shared arrangements, especially in instances of software acquisition and development, in order to minimize duplication. To facilitate the development of a distributed system, the Department of Higher Education should formulate a plan to strengthen the Departmental data center so it can provide services that will complement services received from the New Jersey Educational Computer Network.
2. The nonprofit corporation, New Jersey Educational Computer Network, Inc., should be continued as a primary agency providing shared services to the institutions of higher education. However, the Network should not be the sole source vendor of computing services.
3. The New Jersey Educational Computer Network's computer support staff should supply general computer counseling and services to institutional decision makers.
4. The Network's Articles of Incorporation and By-Laws should be revised so that cost-effective delivery of computing services, the maintenance of a modern and responsive computer configuration, and the employment and continuation of a highly trained and professional staff are explicitly stated as its primary responsibilities. The Network should evolve from its present central configuration into a distributed network with full computing services distributed geographically throughout the State and linked by communication lines.

5. The Network should make available under contract or special arrangement such services as may be determined to be cost-effective for the use of institutional users. Furthermore, the Network should be required to provide positive evidence that its rates are competitive and that public postsecondary educational institutions are offered services on a most-favored basis.
6. If the Network fulfills the obligations as defined, it should have the right of first refusal with respect to requests for support from member institutions.

Guidelines for Planning

Since crucial decisions will have to be made on these and related matters throughout the decade, the Board of Higher Education's third major area of concern is the development of structures and guidelines for planning and policy-making.

Action To Be Taken

1. The Chancellor should establish a Computer Policy Council to advise him concerning the appropriate future development and distribution of computer resources within the higher education system. The Council should consist of members chosen from each of the institutional sectors and from among distinguished and knowledgeable persons in business, industry, and government.

CHAPTER SEVEN

STRENGTHENING PROGRAMMATIC MISSION

The Statewide Plan is concerned with the overall qualitative and quantitative need for undergraduate, graduate, and continuing education in New Jersey and with the nature of the educational system best suited to meeting those needs. Chapter Three discussed the role and mission of the individual sectors in that system. Yet, as they continue to develop their particular character and strength, they also should give special attention to those interests and areas of concern they hold in common.

Research and Scholarship

The essential contribution of research and scholarship to a dynamic and improving society has been demonstrated repeatedly. Together they comprise a major part of the higher education community's general commitment, which is reflected especially in the efforts of those institutions which award advanced and professional degrees. The support of such activities at these institutions is essential. Faculty involvement in research and scholarship provides enriched instruction for students based on a broad and sophisticated understanding of the current state of the various disciplines. The successful recruitment and retention of faculty members of superior quality at these institutions rests to a significant extent on the availability of research funds and facilities. Teaching vitality is enhanced by continuing involvement of faculty members in creative work in their fields of expertise. Such research and scholarship endeavors are a necessary assurance of faculty ability to guide students in similar activities and to serve as appropriate role models. There is no true graduate training or education at an institution unless there is active research and scholarship in the fields in which degrees are offered.

All the important needs and problems of society involve many academic disciplines. There is a growing awareness among university faculties everywhere that the multiplicity of problems associated with society's concerns require for their solution the combined expertise of many and diverse research scientists. Progress can be made only if groups of professionals with different training cooperate for the common good.

The State of New Jersey has a clear opportunity to exercise a leadership role in this regard. As measured by per capita expenditure, this State is by far the highest in the nation in volume of research and development activity. Moreover, New Jersey's industrial and governmental organizations enjoy national prominence for their scientific and technological endeavors. It would be valuable, then, to explore possibilities for interaction among industrial research and development organizations and educational institutions in New Jersey. Such possibilities might include specialized graduate courses at the cutting edge of science and technology, jointly conducted research under the financial sponsorship of government agencies, industrial sabbatical leaves, and jointly developed research facilities.

The higher education system, therefore, with its inherent possibilities for interdisciplinary and other interaction in both research and teaching, represents a major social resource. While higher education does not make the decisions which will in the future animate the direction of society and its governmental, business, industrial and social agencies, it can produce some of the findings upon which rational determinations can be based. Higher education makes contributions to the solution of society's problems by conducting balanced programs of both basic and applied research.

The funding of research and scholarship on a national basis, whether by way of the Federal budget or the commitments of major foundations, is predicated almost entirely upon what are perceived to be national needs and priorities. Neither of these funding sources is designed to give substantial attention to the special qualities or particular needs of the State of New Jersey. In order to address such problems, a major commitment by the State to fund research and scholarship activities is essential and should recognize the importance and needs of the arts and humanities as well as the physical, natural and social sciences. Enhancing the State's ability to attract scholars and teachers of the highest caliber to its institutions, and the resulting enrichment of their instructional programs, are the most immediate benefits of a clear State policy of funding research and scholarship in higher education.

During the next decade, increased efforts must be made to recognize institutions' research and scholarship roles, to sustain a hospitable environment for such activity, and to provide funding at levels appropriate to the research missions of the individual colleges and universities. Where Federal and other support is not sufficient to permit the proper discharge of those responsibilities, the Board of Higher Education should take steps toward filling the gap within the budgetary resources available. Securing adequate funding will require a major commitment and continuous effort to educate the public and its representatives about the importance and promise of research and scholarship. It is especially important, moreover, that institutions of higher education, given the disturbing decline in levels of support from external sources for basic research, strengthen their efforts to obtain Federal and foundation funding and establish priorities for funding basic research.

One of the basic tenets of academic freedom is the right of the individual faculty member to pursue any avenue of research as long as it is consistent with the law and with institutional policy guidelines. At the same time, the State has the right and the responsibility to identify and to provide funding for those areas which it considers to be of importance. This has been and should continue to be done through the support of institutes and centers with special research missions such as agriculture, marine sciences, or public policy studies. It is an appropriate way for the State to indicate public policy priorities without exerting control over the content of research programs, and it is essential that a relationship which insures freedom of inquiry be continued.

In the last few years, some agencies of State government have increased the number of contracts with New Jersey's institutions of higher education

for research and training in specific areas of social concern, such as environmental protection and energy conservation. Nevertheless, the research facilities and capacities of our colleges and universities are still not fully utilized by State government. Many agencies have established independent laboratories or have contracted work with private firms or universities in other states without exploring whether appropriate facilities and expertise already were available at New Jersey's educational institutions. There is currently no State policy by which research contracts and grants being offered by State agencies are announced to the State's educational institutions and no standard procedure for the State's colleges and universities to confer with State agencies about these research opportunities, and to submit proposals to be evaluated on the basis of competitive merit and cost effectiveness.

Action To Be Taken

1. A council on research and scholarship, advisory to the Chancellor of Higher Education, should be established to promote high quality research and scholarship activity at New Jersey's public and independent institutions of higher education. The council should be composed chiefly of representatives nominated by New Jersey institutions of higher education, as well as representatives of State agencies, industry and other existing groups concerned with research and development. The council should:
 - a. recommend broad research policies and goals for State-supported research at New Jersey colleges and universities;
 - b. identify areas of research which could be met by New Jersey colleges and universities and recommend State research priorities;
 - c. propose criteria by which special new or additional research funding levels should be determined and allocated;
 - d. promote cooperation for inter-disciplinary and inter-institutional research while working in coordination with private industry and State government;
 - e. advise on effective means to publicize the research activities and capabilities of New Jersey educational institutions in order to promote public support and to stimulate further interest on the part of government, corporations, and foundations;
 - f. encourage State government agencies to utilize more fully the existing research facilities and expertise of New Jersey's educational institutions, announce requests

for proposals to carry out research on contracts and grants, and develop procedures for the evaluation and competitive granting of awards. (The Grants Office in the Department of Higher Education is available to help carry out the Council's recommendations.); and

- g. encourage the establishment of working level forums of concerned experts in academia and in industry who could inform each other's thinking on matters of mutual concern.

Graduate and Professional Education

During the 1960s graduate education experienced an unprecedented era of expansion and prosperity. Every year there were more students, more programs, more federal fellowship and research funds, and more jobs to be filled in higher education. The prosperity ended in 1970 with the leveling off of federal support and the shrinking of the academic job market. Graduate enrollments, however, continued to grow until 1975, accompanied by an increasing national concern over a "Ph.D. crisis." Even though graduate enrollments have stabilized in the last five years, as many doctorates were awarded during this decade alone as in the entire previous history of the United States.

Recent enrollment trends indicate that students are now turning away from doctoral programs in many of the traditional fields in the humanities, social sciences, and natural sciences which prepare students primarily for research and college teaching, and instead are pursuing programs leading to non-academic careers which require a master's or first professional degree. Enrollments in professional master's programs in business, public affairs, social work, and the health professions have continued to grow, and the demand for first professional programs in medicine, dentistry and law remains strong.

These changes have had a profound impact on attitudes toward graduate education. Because of the high cost of graduate programs there is legitimate concern over unnecessary program duplication and support of marginal programs at public expense. With the exception of the area of teacher education, however, there fortunately is little evidence of unnecessary graduate program duplication in New Jersey. Even so, realistic adjustments should be made in the size of certain programs, given the diminution in academic career opportunities. But, at the same time, it is most important to reaffirm the intrinsic social, cultural, and individual value of doctorate programs. A primary task for New Jersey's institutions and the Board of Higher Education in the next decade will be to concentrate the resources available for graduate education on strengthening those programs with the potential for high quality and academic distinction and on reducing the number of programs of marginal academic and social value.

The major issues in graduate and professional education are: the future development of doctoral programs; the future distribution of master's programs among the sectors; and the assurance of broader access to and financial support of graduate education.

The Future Development of Doctoral Programs

Doctoral programs represent the highest level of teaching at a university and are essential for the promotion of advanced research and training at the frontiers of knowledge. Effective doctoral programs must be based on a faculty active in research and scholarship whose ability to contribute to the advancement of the discipline and to train students to make further contributions is recognized by their peers. Periodic evaluation of disciplines through external reviews, provides the most appropriate method for institutions to assess the quality of their doctoral programs.

In the past, the majority of Ph.D.s were able to find employment in college or university teaching and research. This will not be the case in the next decade. Many of the traditional disciplines, especially in the humanities and social sciences, are already awarding doctorates to more students than can be placed in academic positions. Although the exact estimates differ, it is probable that less than half of those earning Ph.D.s in the 1980s will be able to secure employment in institutions of higher education. On the other hand, opportunities for persons so educated will continue to exist in business, industry, and the public service. Our universities should accept the responsibility of reviewing the size of their doctoral programs and curtailing those in disciplines where employment opportunities of all kinds are severely limited.

New Jersey institutions already offer a full range of doctoral programs, and there is no need to add new programs in the traditional arts and sciences. It is possible, however, that there may be a need to develop programs in a few specialized areas. Institutions should plan to develop only new doctoral programs which will meet demonstrated needs and standards of high quality, according to the guidelines presented in the chapter on assuring academic and institutional quality.

Actions To Be Taken

1. An external review process should form the basis of periodic institutional evaluation of the quality and effectiveness of doctoral programs. Programs with the potential for distinction should be strengthened through the reallocation of resources. Programs judged to have fundamental weaknesses should be considered for discontinuation.

2. Institutions should act during the 1980s to contract the size of doctoral programs in those fields where opportunities in research and college teaching are limited.
3. New doctoral programs should be planned by institutions only in fields for which need can be demonstrated and if there is evidence of the institution's ability to offer a program of high academic quality.

The Distribution of Master's Programs Among the Sectors

There are nearly four hundred separate master's degree programs offered in New Jersey by nine public and ten independent colleges and universities throughout the State. The majority of master's degree program students are enrolled part-time at nearby colleges and are already employed.

Mid-career training which is job related or pursued to enable a change in position or career is becoming increasingly important in graduate education. While enrollments have stabilized or declined in most doctoral programs, they have continued to increase in professional master's programs, especially in business administration and human service areas such as public affairs and social welfare. The demand for these programs is especially strong from persons seeking career development, rather than from those preparing to enter the job market.

Given the demand for nearby programs to meet the needs of part-time students, there does not appear to be any unnecessary duplication in the traditional arts and sciences or professional master's programs. In the area of teacher education, however, there is evidence of master's degree program proliferation. Presently, there are 150 master's degree programs in teacher education in New Jersey, constituting 40% of all master's programs. These teacher education programs are offered in 40 different fields and follow no consistent practice in granting degrees, which are awarded with five different designations (Master of Education, Master of Arts in Education, Master of Arts in Teaching, Master of Science in Teaching, Master of Science in Education).

Except for Montclair State College, which offers a broad range of master's programs in the arts and sciences, resources for graduate education at the state colleges are primarily or exclusively concentrated in their 90 teacher education master's programs. This reflects the historical development of the state colleges from their origins as teachers' colleges, as well as Department of Higher Education policy in the past. During the next decade this policy should be changed to allow the state colleges to develop into more diversified institutions by supporting their

efforts to shift resources from teacher education to other professional master's programs.

Among the independent colleges there are also institutions with a large number of teacher education programs and high proportions of graduate enrollments concentrated in professional master's programs, especially in business and management. Planning for the Statewide development of master's programs should include the independent colleges, which contribute important elements of diversity and choice in education to New Jersey residents. The future distribution of master's programs and the approval of new programs should be based on the criteria of quality and need, applied consistently to the independent as well as the public sector.

During the next decade New Jersey can expect to see major changes in the area of graduate business education. Currently only the program at the Rutgers Graduate School of Management has been accredited by the American Assembly of Collegiate Schools of Business (AACSB), but all the other institutions offering the Master of Business Administration have indicated that they intend to achieve program accreditation by 1987. Two state colleges will offer programs leading to the Master of Business Administration, one in the fall of 1980, the other in 1981. There is a pressing need for an advisory body to oversee the development of this expanding area according to certain basic guidelines. New graduate business programs should be limited in number, based on restricted enrollments, and designed to meet AACSB accreditation standards. Enrollment restrictions should not be lifted until professional accreditation has been achieved, the impact of the program on the entire system has been assessed, and an updated needs analysis has been completed.

Actions To Be Taken

1. *Because the demand for master's programs comes primarily from working part-time students, master's programs in the major fields should be available in a sufficient number of locations to provide access to students within a reasonable commuting distance and at times convenient to a working population.*
2. *The state colleges should be permitted to develop new master's programs in fields for which a need can be demonstrated and for which the institutions have available a qualified faculty and resources to develop high quality programs.*
3. *The Chancellor should appoint a special advisory committee to study graduate teacher education, including*

the supply and demand, the quality and quantity of master's programs, the amount of regional duplication, and the need for rationalization of degree designations. The committee should make recommendations indicating which programs might be phased out in order to free resources for other high priority programs and should identify any areas where expansion might be justified in order to strengthen the quality of teaching and administration in the public schools.

4. The Chancellor should appoint a Graduate Business Education Advisory Council to study graduate business programs in the State, to work out a reasonable configuration based on regional needs and program diversity, to oversee progress toward the accreditation of existing programs, and to review new program proposals on the basis of quality and need.

Graduate Medical Education

Graduate Medical Education is an essential component of the training of physicians. Usually consisting of three or more years of both clinical and didactic training in hospital settings, residency training is required for certification by all specialty boards of the medical profession. Graduate Medical education in New Jersey is currently offered in 34 specialty areas to 1,870 physician graduates by 43 medical school-affiliated hospitals.

Under the Graduate Medical Education Program, the Board of Higher Education awards grants to hospitals in New Jersey to enable them to develop, expand, or improve the quality of high priority residency programs. Important issues in the future of graduate medical education include the number and types of residency programs required to achieve desired physician distributions by specialty and practice location, financing graduate medical education, and maintaining and improving program quality. Through the Program, these challenges can be addressed in the coming decade.

Actions To Be Taken

1. The Board of Higher Education, with the assistance of the Advisory Graduate Medical Education Council, should continue its activities in the awarding of grants to encourage the development or expansion of residency programs identified as meeting high priority physician manpower needs of the State.
2. The Board of Higher Education should establish a Graduate Medical Education Master Plan to address the issues

of physician manpower maldistribution, financing, and program quality.

Assuring Broader Access and Financial Support

Graduate education serves the important social function of providing the training required to enter or advance in the professions. Ultimately the success of affirmative action employment programs in professional fields depends on enlarging the pool of qualified candidates to include more minorities and women with graduate training. New Jersey colleges and universities should reaffirm their commitment to increasing the enrollments of ethnic minority and women students in graduate programs and pursue active recruitment efforts in programs where these groups are still greatly underrepresented, such as engineering, business, the biological sciences, and the health professions. The successful recruitment and retention of minorities and women largely depends on the availability of financial aid, but there are very few fellowship programs designed specifically to support their education in professional fields where they are underrepresented. The creation of the Garden State and EOF Graduate Grant Programs represents an important, but still limited, first step in this direction.

While broader access should be a major goal for graduate education, it is important that prospective students have available sufficient information to make appropriate choices among programs which lead to professional careers. The change in student perceptions of which fields appear to offer the greatest career opportunities tends to lag many years behind changes in the actual employment situation. Institutions, therefore, have the responsibility to collect and publish appropriate data, such as the job placement of recent graduates, so that prospective students may make more informed decisions.

Adequate financial support for graduate education, especially at the doctoral level, is closely related to support for research. The quality of a graduate program bears little relationship to the size of its enrollments, and the enrollment-driven formula now used to fund graduate education at the senior public institutions is not appropriate for building program excellence. The Department of Higher Education should develop an alternative means of funding graduate education which emphasizes quality and research. At the same time, all the senior public institutions should establish clearly defined internal procedures for the differential allocation of resources to those graduate programs with the greatest potential for excellence and for the discontinuation of support for programs with marginal academic and social value.

Actions To Be Taken

1. The Board of Higher Education should further develop its programs to recruit and provide fellowships to support minority students and women in specifically designated areas of graduate study which lead to professional careers in which they are underrepresented.
2. In order to attract the gifted students who enhance the quality of graduate programs, the number of Garden State Graduate Fellowships should be increased from the present 25 to at least 100 awards per year.
3. The Department of Higher Education should develop alternatives to the current enrollment-based formula for funding graduate education and research.
4. All senior public institutions should establish procedures for allocating resources internally among graduate programs according to their potential for excellence as well as procedures for discontinuing programs of marginal academic and social value whose resources should be allocated elsewhere.

Vocational Education

Although New Jersey is one of the most industrialized states in the nation it suffers from one of the highest and most persistent rates of unemployment. Many of the positions available remain unfilled because many New Jerseyans, especially women, minorities, and young people, lack adequate skills and training. There is a clear need, therefore, for technological programs at the colleges so that the social and economic problems caused by unemployment may be alleviated and an adequate supply of trained technicians may be provided to industry presently in the State and to industries that might be attracted here.

Since vocational education is the most rapidly growing component of the collegiate curriculum, especially at the community colleges, sound planning in this area is essential. The vocational education efforts of both collegiate and non-collegiate institutions and agencies must be clearly defined and well coordinated. New and appropriate programs must be developed and made accessible to those individuals and groups they would benefit. It is particularly important, moreover, that vocational education programs assure that students acquire the fundamental literacy skills needed to function effectively in the work place.

Mission and Coordination

In New Jersey vocational education is offered by a wide variety of agencies and institutions. Postsecondary vocational education traditionally and appropriately has been provided by institutions at the local level. The missions of these institutions are and should continue to be sufficiently distinct to assure complementary rather than duplicative services.

At the non-collegiate level, postsecondary vocational training is offered by area vocational technical schools, comprehensive high schools, and proprietary or private schools falling under the jurisdiction of the Department of Education. In addition, Comprehensive Employment Training Act (CETA) programs offer occupational training services based on population and geographic considerations.

Area vocational-technical schools (AVTSS) provide full and part-time non-collegiate programs for persons who have left school or who have fulfilled high school graduation requirements or their equivalent. Their programs lead to a certificate or a diploma and are designed to upgrade the skills of employed workers for career advancement, to retrain employed workers, and to prepare people for employment. These schools also offer adult courses, customized training, and service programs for business and industry.

Comprehensive high schools offer extensive postsecondary adult evening programs that provide access to local residents.

Proprietary (private) schools provide career programs in which students can gain entry level employment skills in a relatively short period of time.

Comprehensive Employment Training Act (CETA) programs are organized as a decentralized system for occupational training services made up of prime sponsor areas based on population and geographic considerations. Prime sponsors identify employment opportunities in their areas and arrange for employment and skill development services to eligible individuals.

Community colleges offer more than 97% of New Jersey's collegiate vocational education programs, and their primary focus is to offer credit-bearing courses that lead to a certificate or an associate degree. These colleges also provide non-credit career and career-related courses, programs, services, and activities through community service programs as well as customized training and retraining programs for business, industry, and other clients.

The diversity of providers of vocational education should be viewed as an asset. Cooperative ventures between and among them could reduce unnecessary costs and duplication of programs and effort and could make possible complementary programming and services. Effective cooperation, however, assumes a good faith effort on the part of those with statutory and advisory authority for vocational education at the State and local levels. One vehicle for cooperation is the use of coordinating mechanisms which include appropriate representation from post-secondary institutions. Although a number of these coordinating mechanisms now exist, the representation of higher education on some of these bodies is sometimes less than proportionate to higher education's responsibilities for postsecondary occupational training.

In response to manpower needs and student demand, it is often necessary to design new programs that require significant expenditures to engage the services of instructors with unusual or highly specialized qualifications and to purchase special equipment. In these situations, programs offered on a regional basis can be the most efficient and cost effective and should be developed whenever possible.

Actions To Be Taken

1. The community colleges should continue to be the major providers of collegiate vocational and occupational education. The Department of Higher Education should develop, for consideration by the Board, policies that limit the offering of such programs by all other public collegiate providers unless sponsored by the community colleges. New career programs in the public sector leading to the associate degree shall be offered only by the community colleges. However, in recognition of the postsecondary level training offered by the area vocational technical schools and the proprietary schools, the Department of Higher Education should encourage the granting of collegiate credit for occupational training at such institutions, where appropriate, and should develop guidelines that will assure greater uniformity in the award of credit for such experiences.
2. The community colleges should continue to provide continuing non-credit occupational training and re-training at the lower division level. The Department of Higher Education should develop policies designed to limit the delivery of these services by other collegiate providers in the public sector.
3. The Transfer Advisory Board (see page 64) should study and present to the Board of Higher Education

its findings concerning the transfer and articulation of credits earned in associate in applied science degree programs. The study should consider: the design of four year programs and two year programs that can articulate with each other; possible revision of the Full Faith and Credit policy to permit transfer of some A.A.S. credits to senior institutions; and the development of procedures by community colleges for articulation with other public and private vocational education programs at the secondary and postsecondary levels.

4. The community colleges should develop cooperative activities with other providers of vocational education programs such as joint A.A.S. programs between them and the AVTSs and other appropriate collaborative endeavors with proprietary schools.
5. Projects should be undertaken and funded cooperatively between and among the Departments of Labor and Industry, Education, and Higher Education, and CETA Prime Sponsors and other State level agencies as they relate to the delivery of vocational education and occupational training services.
6. Present high cost technology programs at the community colleges should be regionalized wherever possible, and policies should be designed to assure that this occurs. Proposals for such new associate degree programs should include assurance that they will be regional ones where appropriate.
7. The Department of Higher Education should pursue equitable representation for postsecondary and higher education on all coordinating and advisory bodies concerned with manpower training, including those under the jurisdiction of the Board of Higher Education.

Enrichment

General education is an essential component of vocational education at the associate degree level because it provides the communication skills essential to job performance, an understanding of the theoretical basis of the technology being taught, and the liberal understanding essential to an awareness of the social, political, and ethical implications of one's work.

At present, there is no program standardization or core curriculum in the career curricula, except that required by outside accreditation groups. Greater uniformity within the core curricula would be of some advantage in assuring articulation to four

year programs and to non-collegiate programs and would reassure employers about the adequacy and extent of training.

Cooperative education programs at the community colleges provide student populations with enrichment through work experience and employment while they offer necessary financial support, exposure to a variety of experiences, and greater career awareness.

Actions To Be Taken

1. Certificate programs offered by the community colleges should contain a minimum of two courses of general education taught at the college level, at least one of which should be an introductory freshman level English course.
2. The Department of Higher Education, in cooperation with other organizations identified with community college faculty and staff development, should sponsor workshops, seminars, and conferences to promote improved integration of career and general education curricula.
3. The Department of Higher Education, in conjunction with the appropriate sector representatives, should encourage the development of curriculum guidelines for all collegiate occupational programs comparable to the guidelines in the Master Plan of the Advisory Council on Technology.
4. Cooperative educational experiences, including internships and practica, should be included as part of vocational education with associate degree curricula, as appropriate.

Cooperative Education

Cooperative education integrates, in a structured way, on-campus study with off-campus, professionally related work experiences. Through cooperative education programs, students are able to earn all or most of their college or university expenses at the same time that they gain valuable training as well as a critical understanding of the world of work and their ability to adapt to it.

In addition to giving students the opportunity to test career choices in a realistic way, cooperative education also is an effective form of student assistance for talented and qualified young people. As such, cooperative education should be encouraged as an effective means of providing simultaneously educational opportunity and professional experience.

Actions To Be Taken

1. The Department of Higher Education should continue its support for cooperative education and the unique opportunities that cooperative education provides the students of New Jersey.
2. The Department should encourage other state agencies to adopt the cooperative education plan.
3. The Department should pursue the idea of funding to support exemplary cooperative programs which meet the needs of students, the colleges, and the State.

Health Professions Education

Education for the health professions is a necessary and important component of the higher education system in New Jersey. It is an enterprise that is growing rapidly and is one that probably will continue to grow during the foreseeable future. Given the general constraints on the growth of fiscal resources for higher education in general, this expansion must be accomplished as efficiently as possible so that other segments of higher education are not adversely affected.

The Health Professions Education Master Plan, adopted in May 1973, and revised in 1976, provides a coordinated Statewide approach to the education of health personnel. The Plan developed and set forth criteria that have been used in making determinations regarding the qualitative aspects of programs and their relationship to manpower needs. It is now necessary to identify institutional capabilities and the roles to be assumed by the different academic sectors with regard to the appropriate distribution of educational opportunities for health manpower training. Regionalization of health professions education, where appropriate, is a means of developing planning objectives for the delivery of health care services and of controlling the rising cost of health professions education.

The following objectives should direct the continued development of health professions education in New Jersey:

1. maintaining an appropriate, but not excessive, number and diversity of programs to meet Statewide manpower requirements, with special attention to individual regional requirements;
2. avoiding the unnecessary duplication of programs and a resultant oversupply of manpower by monitoring both the establishment of new programs and the growth of existing ones.
3. sharing resources, whenever possible, through cooperative activities between sectors, between regions, and between institutions, including non-academic institutions such as hospitals;

4. providing reasonable access in response to student demand based on, but not limited to, regional considerations; and
5. revising and continually updating the Health Professions Education Master Plan to address the changing needs of the health care system and emerging new professional trends and to reflect Federal and State legislation that will affect the delivery and cost of health care services.

Programs

Baccalaureate institutions are primarily concerned with Statewide manpower needs. Although regionalization is not a primary consideration at the generic baccalaureate level, it nevertheless impacts on articulation as it affects the career mobility of employed, part-time students who should have opportunities for further education within reasonable commuting distances.

Community college programs have a mission to address local problems. Therefore, these institutions should be particularly sensitive to changes in manpower needs, health technology, and professional trends. However, given the fact that New Jersey is a small state, these local needs should be considered within the context of Statewide supply and demand for health professionals.

Generally speaking, the major health professions are well served by the current educational programs in the State. With relatively few exceptions, there are enough baccalaureate and community college programs to meet the needs of the State for personnel trained at those levels. On the other hand, there continues to be a need for additional persons prepared at the graduate level in many professional fields to serve as faculty, program administrators, clinical specialists, and researchers. Moreover, new technological developments, professional trends, and social needs may call for the establishment of new and different programs in the future.

In addition, there is some evidence that certain educational patterns are no longer appropriately related to changing functions within the health care system that indicates a need for an in-depth study of several current program configurations which encompass related occupations (e.g., clinical laboratory sciences) in order to evaluate how well these programs are meeting changing professional needs and issues of career mobility.

Actions To Be Taken

1. New baccalaureate programs should be approved only if they respond to projected or currently unmet manpower needs for the State as a whole or are designed

in such a way as to provide opportunity for articulation and professional mobility within the contexts of regionalization and individual institutional mission.

2. Additional community college programs should be approved only if they ease certain problems of poor manpower distribution, meet changing professional requirements, or address unmet programmatic needs.
3. Any new community college program in any one county should take into account the needs of surrounding counties and make provisions for accepting out-of-county students under the State's "charge back" mechanism.
4. The establishment of new or additional graduate programs should be based on a demonstration of Statewide and professional needs, and their location should be determined by academic rather than geographic considerations.
5. The Health Professions Education Advisory Council should explore whether new curricula should be initiated, i.e., those not yet addressed within the Statewide system. Individual institutions also should undertake such studies that give special attention to inter-institutional planning.
6. The Health Professions Education Advisory Council should undertake substantive studies of the educational requirements and existing program organization for certain critical occupations or occupational clusters to insure their congruence with current practices of the health care delivery system.
7. Leaders within the health professions should identify the differential competencies of practitioners prepared at each education level. The Department of Higher Education should encourage discussion between education and service to promote optimal use of practitioners in accordance with appropriate educational preparation.
8. Based on recommendations emerging from the studies mentioned above, the Department of Higher Education should provide leadership and incentives for the development of needed new programs through such means as issuing requests for proposals to appropriate sectors and institutions.

Clinical Resources

Clinical practice and experience are fundamental components of all health professions education programs. Unfortunately, the avail-

ability of clinical resources is extremely limited in New Jersey and presents a serious problem to collegiate programs.

Actions To Be Taken

1. The clinical facilities in the State should be encouraged to collaborate closely with the State's collegiate programs.
2. Within regional areas, especially those that may be underserved, hospital and degree granting institutions should explore the development of cooperative hospital/collegiate programs which would provide students with opportunities for both academic and clinical training.

Legislation

Present and anticipated legislation, particularly at the Federal level, will place certain new service requirements on the health care delivery system in New Jersey and will affect the financial aspects of consumer access to traditional services and professional functions.

Action To Be Taken

1. The initiation and continuation of health professions education programs should be evaluated within the context of new legislation.

Developing International Perspectives

Despite the diversity of its origins and traditions, this country tends to be highly insular in language, culture, and understanding. Our lack of interest reflects past international successes and the post-war dominance by the United States in global politics, economics, business and trade. Because American dominance was so significant and national self-sufficiency so great through the mid-1970s, insularity neither adversely affected our international interests in any fundamental sense nor encouraged American interest in other languages and cultures. The dominance of this country is now giving way to a partnership with other nations and cultures. Our national self-sufficiency now is only an historical fact, and our future well-being increasingly depends on cooperation with and support from other nations with different traditions, cultures, governmental forms and languages.

The next generation of college graduates will be active in their fields well beyond the year 2,000 in a world increasingly international and in which multi-national businesses and economic systems will predominate. World

travel will be more common. Investment in everything from stocks to farmland will be across national boundaries. Those countries with citizens able to learn and understand the traditions of others, who are able to converse in the language of their associates, will have a competitive advantage in every aspect of global affairs.

Unfortunately, however, only 10% of American colleges and universities require a foreign language for graduation. During the past ten years, course enrollments in languages have declined by one-half. Fellowships for language and area studies declined by two-thirds in the decade. The International Education Act, authorized by Congress fourteen years ago, has never been funded. Less than four per cent of Foundation giving and two per cent of education giving by private corporations is in the area of international education. The competence once provided by faculty in American colleges and universities in foreign languages and literatures is rapidly disappearing as student enrollments shift to other areas, and new language capacities relevant to the emerging nations have never evolved in a significant way.

Americans need to learn about the world and its implications for them. They need to be able to understand other cultures and other languages so that they may function effectively as citizens in an interdependent world and enhance their careers in an increasing number of disciplines that have become multi-national in character. Our colleges and universities, therefore, should enhance their capacity for teaching, scholarship, and research in other languages and cultures. A new emphasis on literacy in foreign languages is required not only in literature as has been traditional, but in a wide variety of disciplines such as business, economics and technology as well. The concept of global literacy comprehends cultural and area studies as well as languages, and should encompass a broad understanding of the society in all its institutional aspects.

In 1975, The American Association of State Colleges and Universities adopted a policy statement on "The International Responsibility of Higher Education" which presents the argument very well. It stated:

"Institutions of higher learning which claim to offer an education appropriate to the highly interdependent world of today must seriously examine, plan and implement their international role in the curriculum and other programs

The globalization of education should not be on the fringe of the curriculum, 'the frosting on the cake.' Rather, it must be institutionalized as an integral part of the pedagogical philosophy of the institution and its curriculum. There is no student presently in college who should be exempted from acquiring some sensitivity to the existence, diversity and dynamic interrelationship of the many cultures in our world society"

Actions To Be Taken

1. Each senior institution in the public sector should re-examine its curriculum requirements in order to evaluate:

whether to require competence in a foreign language for graduation; how best to offer students the opportunity to study another culture as part of its liberal arts curriculum; how best to introduce international aspects of each discipline within the curriculum and; whether to require study in a foreign language as a prerequisite for admission to college. Each college should report on its efforts to the Department of Higher Education.

2. An inter-institutional task force on international education should be established to:
 - a. survey existing strengths and weaknesses in language and area studies and propose the development of new programs in those areas, if needed;
 - b. propose a comprehensive plan for the maintenance and strengthening of coordination of language offerings in area studies to assure the retention of programs of minimal strength and size within the public college system;
 - c. plan and propose a student exchange program designed to include study abroad as part of the undergraduate curriculum at a New Jersey college or university and to seek the presence of foreign students on our campuses as a broadening influence on the native student body; and
 - d. study the possibility of establishing cooperative education programs on an exchange basis to include both study and work abroad.
3. The Chancellor should institute or support legislation to encourage renewed Federal support for international education at the secondary and postsecondary levels.

Educational Services in Urban Areas

Historically, New Jersey's cities, like others in this country, represented the promise of the American ethic. They fostered the preservation of traditional ethnic cultures at the same time that they offered the possibility of individual social and economic advancement. Unfortunately, for a variety of reasons, certain positive aspects of the character of cities have changed markedly. Middle class residents have moved to the suburbs and tax bases have shrunk so that cities can no longer offer their residents the same quality of life or opportunity for success comparable to those of their more affluent suburban neighbors. Even so, much of the vitality of the cities remains and is reflected in their cultural and artistic richness. That vitality clearly is worth preserving and strengthening. All society's institutions have a part to play in that effort and much to gain if the effort is successful.

Higher education alone will not solve the problems of our cities or of the people who live in them, but it can make an essential contribution by providing avenues of access to personal and community achievement. The primary challenge to higher education in meeting its urban responsibilities is to provide educational opportunities of high quality that meet the needs of urban residents. Adequate preparation, support programs, and financial aid are necessary elements of the response. Beyond the provision of effective instruction, college faculties have the ability to solve certain technical problems and to advise those charged with the conduct of the cities' public business. Finally, colleges can contribute to the improvement of the quality of urban life by encouraging cultural expression and enjoyment.

The Board of Higher Education is committed to policies intended to promote economic and political progress among urban populations in our cities. It is also committed to "good neighbor" policies which will have real impact in making the cities better places in which to live. Indeed, in the future, the Board and the Department, as they develop policies and programs, will emphasize the direct and indirect effects of their decisions on the cities themselves and on the people who live in them.

The test of these policies will be the degree to which colleges' programs succeed in promoting literacy, preparing students for employment, developing their intellectual powers, and ultimately enabling them to realize their potential to participate fully in contemporary society.

Access

In the last decade, some progress has been made in extending educational opportunities to urban residents. Enrollment growth at all the public urban campuses has been accompanied by the establishment of several new public urban collegiate endeavors. The Hudson County Community College Commission in Jersey City, the Camden Urban Center of Glassboro State College, the Passaic County College in downtown Paterson, the relocation of Thomas A. Edison State College to Trenton, new programs at N.J.I.T. and at the Rutgers campuses in Newark and Camden are examples of recent efforts to place institutions of higher education within close proximity to urban populations. In addition, the Education Opportunity Fund Master Plan provides a policy framework within which institutions can strive to increase their enrollments of individuals who live in urban areas. The goal that EOF enrollment in each entering class ordinarily be equivalent to at least ten of the total new student group will provide a sound base upon which urban and other low-income student enrollment can be built. (See section on admission policies).

Although several independent colleges include a higher proportion of EOF students among their student bodies than do many of our public institutions, most share the challenge of increasing that representation. Beyond the resources available to them through the EOF program, the independent colleges now have an

added incentive provided by the Aid to Independent Colleges and University Act which provides financial support to each institution based on the number of New Jersey students that it enrolls.

Actions To Be Taken

1. To achieve a more equitable distribution of urban students among institutions and the presence of a substantial minority population on each campus, programs that have proved effective in broadening access opportunities for urban residents should be strengthened and new ones directed toward this goal should be established.
2. The Educational Opportunity Fund should be expanded at all institutions.
3. Transportation services between college campuses and the major surrounding urban centers should be developed.

Programs

Admission to college can turn out merely to be the gateway to failure. Access in itself is not enough without programs designed specifically to address the ambitions and needs of urban students. Students who graduate from many of the State's urban high schools enter college unprepared to assume the challenges of college-level academic work. Although the basic skills problem extends to a much broader population, an unacceptably high proportion of urban high school graduates suffer the crippling disadvantages of inadequate preparation in reading, writing, and mathematics.

The higher education community should therefore set out consciously and deliberately to redress the imbalance in urban students' chances to compete and to succeed in college. Some efforts such as the Peer Tutoring Program, the Five Cities Project, and the New Jersey Basic Skills Council's work with high schools, intended to provide urban students with stronger pre-college preparation, have been initiated. Having learned from these projects, a systematic program to reduce basic skills deficiencies among urban and minority students should be undertaken, based wherever appropriate on cooperation between high schools and colleges.

Until these and other measures like them can be proved to be successful, the basic skills remedial effort of colleges will have to continue (See section on basic skills). To reduce this commitment prematurely would be tantamount to condemning yet another generation of urban students, disproportionately black and

Hispanic, to illiteracy, economic disadvantage, and personal disillusionment.

A second programmatic thrust will be needed in the decade ahead if higher education is to fulfill its mission to urban minorities. Black and Hispanic students tend to be concentrated in relatively few programs within college and university curricula at present. A much broader distribution is desirable. Since minorities historically have had access to professional careers in education and social services, they continue to enroll heavily in programs leading to such careers. Recently, however, greater proportions have begun to enroll in business programs. That trend needs to be encouraged and expanded, particularly in the areas of technology, engineering, science, and health care.

The Pre-professional Outreach Program offered by William Paterson College in conjunction with the College of Medicine and Dentistry of New Jersey, the articulated Pre-medical/Pre-dental programs at Montclair State College and Seton Hall University, and the presence in Camden and Newark of Rutgers University Law Schools are examples of efforts intended to help minority students qualify for careers requiring specialized training.

Similarly, participation of urban residents in associate's degree programs and bachelor's programs which are in themselves sufficient for entry into technical and scientific career fields must be encouraged. Since adequate preparation and interest in mathematics and science are prerequisite to successful participation in a great many college-level programs, colleges should work with high schools and junior high schools wherever possible to encourage and assist in developing urban students' exposure to and skills in these areas. The New Jersey Institute of Technology's Urban Engineering Program and its work with Newark's University High School are examples of such outreach that deserve to be emulated elsewhere.

Professional development and career enhancement may also be promoted by closer cooperation among higher education, government, and the urban business and industrial community. Customized training programs such as those at several of our community colleges can help to upgrade the skills and educational status of urban workers. These programs should be encouraged and expanded since there are many urban people whose skills need development, but who simply cannot take time beyond their hours of employment to receive this training. Such cooperation benefits not only the employed student but also the organization involved and the community as well. (See section on Vocational Education).

Actions To Be Taken

1. New partnerships should be developed between higher education and urban school systems, intended to result in marked improvement in the basic skills preparation of urban students, to nurture interest in fields of study in which such students are currently underrepresented, and to make urban students aware of career opportunities and the educational programs designed for their realization.
2. For as long as it is necessary, colleges should continue their commitment to offer remedial work along with necessary support services to all admitted students who need such services if they are to have a fair chance to complete a college program successfully.
3. Each college and university should seek to achieve a significant enrollment of students from urban areas in the full range of undergraduate majors and graduate programs it offers.
4. Government agencies and business and industrial communities should initiate cooperative programs to provide out-of-school urban adults with educational services which will promote their professional development and career mobility as well as provide employers with better trained employees.
5. Adequate funding should be provided to support these activities, and the Department of Higher Education should work with concerned institutions, agencies, and organizations to develop programs and services for urban communities and their residents.
6. The Boards of Education and Higher Education, through the Education Coordinating Council, and each institution should develop a statement of urban policy that reflects how its programs and services benefit urban residents.
7. An Advisory Council on Education for urban areas should be constituted to advise the Board and the Chancellor on appropriate policies and programs designed to meet the needs of urban communities.
8. Colleges and universities should be encouraged to develop post-graduate programs designed specifically for teachers in urban schools to provide training in teaching techniques that are especially applicable in urban settings.

Community Service Programs

Programs that benefit the cities need not be restricted to credit-bearing instructional programs. While colleges legitimately defend the privileges of academic freedom for their instructional and research activities, this freedom is not at all inconsistent with an active "good neighbor" policy through which colleges share the expertise and research capacity of their faculty, staff, and students with their surrounding communities. Consultative services and internship involvement allow the colleges to go beyond the campus to the benefit of public, semi-public, and private organizations. Jersey City State College, with its urban focus, sets an example for other institutions in this regard.

Further projects such as those conducted under the Community Service and Continuing Education Program, coordinated by the Department of Higher Education and funded jointly by money made available through Title I of the Higher Education Act of 1965 and by the participating colleges, are important to the extension effort. Programs at Atlantic Community College, Brookdale Community College, and Middlesex County College focus on the provision of English language instruction to Hispanic adults. Several others, for example, provide a range of services to the urban elderly, the incarcerated and the handicapped. One at Essex County College focuses on unemployed and underemployed black women, while a program at St. Peter's College is directed toward entry-level government and service workers in Hudson County. Such efforts should be encouraged and expanded.

Action To Be Taken

1. Colleges and universities should provide consultative and support services to their surrounding communities. Included in this area of community service should be the continuation of informational efforts such as the Higher Education Hotline, the Financial Aid Hotline and the development of new information centers to serve the educational needs of urban communities. Further, extension endeavors in the fine and performing arts, intended to improve the quality of life in urban communities, should be established.

Lifelong Learning

As institutions attempt to make higher education available and useful to individuals throughout their lives, they have come to serve constituencies they have not served in the past, through methods of instruction not used before, and at times and in places other than the traditional campus setting. More now than ever before, "non-traditional" students, many of

whom have non-traditional needs, are seeking degrees and training to advance in their work, to change career direction, or simply to learn more about subjects of particular interest to them.

This heightened interest and need for further and different education has necessitated the development of new instructional models and more flexible means of providing academic and support services. The concepts of adult education and continuing education have been established for quite some time. During the past ten years, however, new instructional and non-instructional approaches to the education of non-traditional learners have gained acceptance.

Assessment Programs

One of the more exciting of these recent initiatives is the recognition and evaluation of non-collegiate study through programs that assess for college credit the educational achievement of independently educated persons. A variety of techniques is currently available to assess academic achievement acquired outside the classroom through independent reading, on-the-job experience, volunteer activity, or other life experience. Course equivalency examinations in a wide range of subject areas are available through the Educational Testing Service (CLEP), the American College Testing Program (PEP), and Thomas A. Edison (TECEP). Assessment of prior learning through portfolio development, project presentation, oral defense, etc., is now accepted practice at many institutions and, in fact, represents the main thrust of activity at Thomas A. Edison State College of New Jersey. These assessments grant college credit not for what an individual has experienced, but for what collegiate level knowledge he is able to demonstrate has been learned from the experience. Most of our colleges offer the additional option of locally developed challenge examinations.

Since even the most specialized bachelor's degree program demands that its graduates have firm grounding in general education, assessment programs must identify not only what the student has learned but what he must yet learn in order to qualify for a degree. Thus, strong advisement programs and other student services are paramount.

When carried out in accordance with sound practices established by national associations to guarantee academic excellence, experiential and independent learning programs can provide a viable and educationally respectable option for the non-traditional learner.

Actions To Be Taken

1. All colleges and universities should be encouraged to develop and implement a wider and more diversified range of testing and assessment options as alternatives to usual coursework for both traditional and non-traditional students.
2. Institutions should develop and implement a written policy on crediting experiential learning. If an institution chooses to do so, it may invite Thomas A. Edison State College to develop an outreach credentialing center on its campus as an option to an institutional assessment program.

Other Programs and Services

Assessment programs do not satisfy the educational demands of all adult learners. Each year, approximately 13 million people engage in formal training sponsored by business, labor, government and professional associations. Further, a 1978 College Board study indicated that 24 million Americans will need some form of education or retraining as a result of career transition. The unemployed, the underemployed, those employed in rapidly changing fields, women seeking to re-enter the paid labor force, paraprofessionals, and others have specific educational needs which may be addressed by single courses, short term seminars and workshops, and specialized conferences as well as by degree programs offered at convenient times and places.

It would be short sighted, however, to believe that adult learners are interested only in job-related education. Programs in the arts and sciences, cultural enrichment opportunities, sequences which provide disciplined inquiry into areas of topical interest, and self-development courses should be offered. Further, colleges can contribute to the resolution of the problems of personal transition by providing programs for persons recently divorced, widowed, retired, paroled, and the like. Clearly, life-long learning programs must be diverse in range if they are to fulfill the higher educational needs of the adult population.

Student services to part-time and other non-traditional students have to date not been equal to those provided full-time students. Although these services should differ in content and in process, they should parallel those already available to full-time students. Needed support services such as counseling, advisement, information services, registration, veterans benefits information, bookstore and library services should be available during convenient hours. Colleges and universities offering off campus, instructional programs should make reasonable provisions for student support services.

Perhaps most importantly, the academic excellence of all individual offerings and programs must be guaranteed. Those whose education consists of any combination of courses offered by television, assessments of prior learning, and courses taught at weekend colleges and at special extension centers ought to be assured that their degree commands the same value as degrees earned in more traditional ways. Adherence to high standards of excellence will contribute to such an understanding.

The State's investment in certain lifelong programs and courses is justified. The Department of Higher Education should develop an appropriate formula to provide limited State support to those programs and courses which serve a public purpose and cannot be self-financing, and should study the issues associated with extending financial aid to part-time students. (See the chapter on Financing Higher Education and the section on Financial Aid.)

Actions To Be Taken

1. A Council on Lifelong Learning should be established to advise the Chancellor and the Board of Higher Education on issues relating to lifelong learning and non-traditional education including such matters as the expansion of options and offerings, the transferability of credit between institutions, the development of cooperative efforts with business, government, employee organizations, and professional associations, the provision of adequate student services, and the maintenance of quality.
2. The Department of Higher Education should develop guidelines and funding proposals to support cooperative programs between higher education institutions and the non-collegiate sector for employment training, in-service training, and retraining for: paraprofessionals; lower level workers in industry, government, and non-profit corporations; the unemployed and underemployed; and other similar and appropriate target populations.
3. All institutions should offer equivalent student support services in the following areas: advisement, information services, registration, records evaluation and maintenance, placement, financial aid, and bookstore and library services.
4. The Department of Higher Education should develop an appropriate formula to provide State support to those programs and courses of lifelong learning which serve a public purpose and cannot be self-financing.

CHAPTER EIGHT

FINANCING HIGHER EDUCATION IN THE 1980s

The future development of the system of higher education in New Jersey requires a viable financing structure. The current structure provided a substantial foundation for building the system from a limited base during a period when the traditional college-age population was expanding. In the 1980s, however, different educational and fiscal conditions will require changes in the present arrangement. Two factors are of particular importance: first, the projected enrollment decline of full-time college-age students, with a concomitant change in the characteristics of future matriculants; and second, the anticipated slowing of the growth rate of total State expenditures, which will negatively affect institutions that rely disproportionately on State support for their vitality. These factors have given impetus to the movement for changes in higher education financing as reflected in the Reports of the Commission on Financing Post-secondary Education (1977) and the Commission to Study the Mission, Financing and Governance of County Colleges (1979).

The financing structure and its mechanisms perform the functions of determining needs and of generating and allocating resources in a manner that insures balanced system-wide funding of New Jersey's higher education system. It contributes to the achievement of the general goals of ensuring access, diversity, quality, and equity in higher educational opportunity for all citizens. It provides for institutional capacity to adjust to changing educational and social needs, for the enhancement of institutional and programmatic quality at all levels, for the equitable distribution of the costs of higher education, and for the maintenance of existing colleges and universities insofar as this is fiscally prudent and consistent with the public interest.

The educational structures of a higher education system, once developed, tend to assume a fixed nature over time and to be subject to change only on the margin. The financing structure shares these characteristics in that the staff and capital facilities associated with the system's educational structures cannot easily be redeployed to serve radically different purposes, and thus they become, in large part, "sunk costs."

Unlike educational structures, however, the financing structure must be capable of change over time if the system is to remain viable. It must be able to respond quickly to shifts in patterns of public support and to fluctuations in educational supply and demand. It cannot rest on unchanging practices or it will shortly be overtaken by events.

Enrollments and Resources

With the possibility of declining full time enrollment, a critical key question in the funding process is how to determine the reallocation of resources.

During the past decade of growth, State funding has been based on simple costs averages. Using averages assumes that all resources vary with enrollment, leading to equal rates of increase or decrease in resources and enrollment. During periods of enrollment increases, the system benefited because the cost of serving additional students tends to be marginal.

The marginal cost concept recognizes that some kinds of resources cannot be cut back at the same rate as enrollment declines. During periods of enrollment decline, using average costs as the basis for budget reductions when cost decreases are actually only marginal will cause the system to suffer unreasonable debilitation of its critical mass of resources. This will result in a reduction of quality in the system by forcing the elimination of crucial staff and services.

In order to avoid a systemwide decline in quality during the period of projected decrease in full-time enrollments, it is necessary to change the financing structure to reflect more accurately actual marginal cost changes in instructional programs and support activities.

The present financing arrangement uses different definitions of students for the purposes of calculating expenditure needs and revenue projections among the institutional sectors. Accidents of legislative history or public policy account for these different definitions, which in some sectors are not even internally consistent. For all sectors, the future financing structure should apply common definitions of students for funding purposes to ensure fiscal equity and a rational relationship between State funding and other cost factors.

Actions To Be Taken

1. The Department should adjust its funding formulae for instruction and support services to recognize that actual costs vary only marginally with enrollment increases or decreases.
2. Funding for instruction in all sectors should be calculated on the basis of full-time equivalent (FTE) students which should be defined as 30 student credit hours for an undergraduate FTE student and 24 student credit hours for a graduate FTE student.
3. Revenue projections for tuition and fee income in all sectors should be calculated on the basis of the same definitions.
4. Funding for support services in all sectors should be calculated on the basis of weighted headcounts of actual students according to specific definitions to be arrived at through further study.

5. Funding for non-credit instructional and support activities should be calculated on the basis of weighted student-faculty contact hours, and common definitions should be applied to such activities in all sectors.

Tuition and Tuition Aid Grants

In New Jersey, as in most other states, tuition policy for public colleges and universities historically has been based on political and economic circumstances rather than on educational and economic principles. When State revenues have fallen short of State needs, political crises have occurred and tuition rates have gone up, more or less according to the prevailing circumstances. The problem with this approach to tuition policy, however, lies in its haphazard nature and, more important, in the fact that it leaves control over outcomes to persons outside the higher education community.

The goals that tuition policy should serve to advance are access, stability, and equity. Each of these goals has been adopted as public policy within the context of the State's commitment to preserve a sound system of higher education. In its most recent action on tuition policy for public institutions, the Board of Higher Education has defined the situation and the process with respect to tuition adjustment, thereby exercising more effective control over outcomes than it could have done otherwise, and has established rational relationships between tuition charges and educational costs.

In order to produce greater equity in tuition rate structure, this tuition policy is based on the general principle that all students at public institutions should pay the same relative share of the cost of their education. Undergraduate tuition levels for resident students should be maintained at approximately 30% of educational and general expenditures. Non-resident undergraduate tuition should be maintained at approximately 45% of educational and general expenditures. Graduate tuition levels for all students should be maintained at approximately 45% of educational and general expenditures. In the absence of complex systems for undergraduate and graduate cost determination, average educational and general expenditure costs should be used for both undergraduate and graduate students. The several specific objectives of this policy are intended to be achieved on a gradual basis.

To improve access and equity, Tuition Aid Grants should continue to be linked to tuition charges and to ability to pay. In addition, one half of all new revenues derived from tuition increases at senior public institutions participating in the Tuition Aid Grant program should be used for the expansion of that program. (See the section on Financial Aid.)

Actions To Be Taken

1. The present tuition policy established by the Board of Higher

Higher Education should be continued for the senior public institutions and extended to the county colleges.

2. Supplemental fees at these institutions should total no more than 30% of the total cost of tuition.
3. Student Tuition Aid Grants should continue to be linked to tuition charges and ability to pay. The maximum aid award available to students from the lowest income families should be continued at the full tuition level in the public institutions, and at a level rationally and equitably related to the average undergraduate tuition charged by State-aided independent institutions.
4. In any fiscal year in which undergraduate tuition rates are increased at the public institutions, an amount sufficient to cover commensurate increases in TAG awards, but no more than one-half of all new revenues derived from the increase, should be made available to the Tuition Aid Grant Program so that the burden of increased tuition will not be assumed by those students least able to afford the added cost.

Institutional Role and Mission

The various sectors of the higher education system all have recognizable and distinct missions. The costs and expected outcomes associated with their instructional programs, research, and public service activities vary and should be reflected in the State support provided to each institution. To satisfy the systemwide concerns of access, equity, diversity, quality, and autonomy, the financing structure must provide mechanisms to allocate resources differentially.

Actions To Be Taken

1. Recognizing that effective skills programs are an essential foundation for constructing upper level degree programs of genuine distinction, the State should continue to provide special funding for basic skills instruction.
2. The State should provide funding commensurate with the scope of the basic skills problem by tying the current enriched funding for skills instruction to programs which clearly define skills proficiency and require students to achieve it early enough to enhance their chances for success in college and to minimize the erosion of quality in the rest of the curriculum.
3. The Department should develop an appropriate formula to provide limited State support for continuing education programs which serve a public purpose and cannot be self-financed.

4. The Department should develop formulae to provide limited State support for credit-by-examination programs, assessment of independent study, and assessment of prior learning.
5. The Department should study alternatives for the reallocation of resources to such critical areas as basic skills remediation, research, public service, program improvement, and off-campus programs.
6. When a "center of excellence" has received approval by the Board, the State should provide differential funding, if necessary, for the particular disciplines or programmatic areas such centers comprise.
7. The State should phase-in full funding of the new differential aid mechanisms approved by the Board for the county colleges and the independent colleges and universities.

Support for Special Missions

The contribution of postsecondary institutions to the intellectual, social and economic development of the State is contingent upon the system's ability to make available to those institutions resources to accomplish unique missions or new mandates. Significant challenges confront the system in areas of high school/college articulation, improving services to urban areas, research applied to New Jersey needs, and vocational education, among others. The financing structure must provide resources to meet these challenges as they develop during the 1980s.

Actions To Be Taken

1. Separately Budgeted Research (SBR) programs should be continued and expanded, especially in areas relevant to New Jersey, and research applied to New Jersey's needs should be emphasized within SBR in order to create an effective partnership between the State government and the institutions to address the critical problems of the day.
2. The Department should provide technical assistance to encourage the establishment of urban college consortia for the purpose of constructing model programs aimed at addressing the special educational needs of disadvantaged urban students.
3. The Department should undertake further study of vocational-technical education needs, and the results should be transmitted to the Board for determination of the higher education system's proper responsibilities in this area.

4. The Department should appoint a task force to explore appropriate areas for the development of educational consortia and to determine appropriate financing and other factors necessary for their effective working.

Categorical Financing for Unique Program Resources

The State's commitment to providing access to quality education to all citizens must be satisfied in a cost effective manner. There are instances in which independent and out-of-state institutions offer programs of obvious benefit to the State and relieve the State from the full cost of financing such programs in the public sector. Examples of such programs are the hospital schools of nursing, the Fairleigh Dickinson University dental program, and veterinary and optometric education programs.

Actions To Be Taken

1. The Department should continue to provide categorical funding to independent institutions for unique program resources which fulfill a clearly identified public need.
2. The Department should reevaluate periodically its present dental education contract program with Fairleigh Dickinson University in the light of any unforeseen and significant changes in the State's need for dentists.
3. Future support for diploma schools of nursing should be contingent upon meeting program accountability measures instituted by the Department in cooperation with these schools and the State Association for Diploma Schools of Professional Nursing.
4. The Department should conduct a detailed cost study of diploma schools of nursing programs to determine the exact amounts which are currently paid by the students, by the hospitals, and by third parties.
5. When educational considerations cannot be satisfied at New Jersey institutions and when contracts provide a cost-effective alternative, the State should continue to contract with out-of-state institutions for the education of New Jersey students in such areas as veterinary and optometric education.

Institutional Support Activities

The quality of instruction and other services provided by public institutions of higher education is significantly affected by the amount of institutional support made available to them. The existing financing structure

responds inadequately to the actual costs of support activities. Public subsidy should be provided for other institutional support activities at public institutions such as libraries, student services, administration, computers, and plant operation on the basis of equal support for activity categories of the same level and cost. Alteration of the financing structure to provide adequate funding of the actual costs of institutional support activities at public institutions is an essential element in improving the quality of these institutions in the 1980s.

Actions To Be Taken

1. The State should discontinue the funding of institutional support activities on the basis of full-time equivalent students and instead fund these activities on the basis of weighted headcounts of actual students.
2. The Department should undertake further study to develop funding formulae based on actual costs for institutional support activities, similar to formulae now used to fund physical plant operations. These formulae should take into account the basic "core" costs and the economies of scale that are related to the size of an institution's student enrollment.
3. The formula funding approach for the College of Medicine and Dentistry of New Jersey should be expanded, beyond instruction, to include physical plant and institutional support activities. The budget models for these areas should recognize the uniquely high costs of medical and dental education in the higher education system and the economies that can be achieved by use of marginal cost concepts.
4. The State should recognize that the percentage of personnel costs vis-a-vis other higher education expenditures should be maintained at a level of balance that enhances overall educational quality.
5. The Department should allocate or reallocate additional funds for support services for new and diverse student groups on the basis of their special needs.
6. Individual institutions should continue to levy and collect general and/or user fees for student services to supplement State support as determined by appropriate boards.

Capital Maintenance, Renovation, and Construction

The facilities of the higher education institutions in New Jersey, with certain exceptions, were constructed principally from the late 1950s to the

early 1970s as a result of State and county bond issues, private fund raising, and supplementary funds provided by the federal government. Between 1966 and 1978, the capital investment of the public sector alone totaled nearly \$985 million.

Most of the physical plants of the public institutions are now beginning to show signs of inadequate maintenance, and the plants at some of the independent institutions have deteriorated as well. In its 1978 report, the Middle States Association of Colleges and Universities cited deferred maintenance as the most crucial problem confronting colleges and universities.

Clearly, the physical plants of the New Jersey higher education institutions will not need the same level of massive infusion of public funds for new construction that was required in the past twenty years. Nevertheless, in the public sector, at both the State and county levels, it will be necessary to provide adequate funding for renovations and some new construction to meet program needs, to phase out inefficient facilities, and to improve the energy management of institutions.

Adequacy of parking continues to be a problem at institutions which either are land poor or which, owing to their geography, require substantial parking facilities.

College housing is another issue which must be addressed (see the section on Student Services and Facilities). The significant capital requirements of the still developing College of Medicine and Dentistry will also have to be addressed in the decade ahead.

In addition, attention must be given to meeting federal requirements for handicapped students, for occupational health and safety, and for energy conservation.

Actions To Be Taken

1. The Department of Higher Education, in consultation with the State Commission on Capital Budgeting and Planning, should develop a cyclical renewal formula for major maintenance.
2. The State should reconsider its present position and provide some form of subsidy for student housing at senior public institutions, both to make additional student housing construction feasible and to help control the costs to students.
3. The State should provide matching support for minor capital and replacement activities to county colleges through a categorical financing mechanism.
4. The State, by statute, should permit county colleges to accumulate and maintain a reserve, within specified limits, for the purpose of capital expenditures.

5. The State should continue to permit the independent institutions to use the services of the Educational Facilities Authority for financing self-amortizing capital facilities other than student housing and student centers.
6. The State, in addition to funding the systemwide removal of barriers to access by physically handicapped students generally, should consider appropriating to the Department special comprehensive capital and operating expenses to provide a limited number of barrier-free campuses throughout the State. Such allocations should be made by the Board upon recommendations of the Chancellor.
7. The Chancellor should appoint a task force to update the Facilities Planning Standards and Approval Procedures for New Jersey Public Colleges and Universities.

Staffing Requirements

The present financing structure for the higher education system is limited to yearly incremental decision making by the constitutional requirement of annual appropriations by the Legislature. It is widely held in the higher education community that a planning perspective toward the budget would be of great assistance to all sectors. This approach is specially pertinent to staffing, since salary costs constitute the bulk of the system's budget.

For example, there should be in place a systemwide process which would put institutional leadership in a better position to undertake rational staff reduction measures if such reductions become necessary. Some related issues which deserve study are: legal aspects of reductions in force; including the issue of tenure; collective bargaining issues; and definitions of fiscal exigency.

It is absolutely essential, however, that institutions adhere to both the legal requirements and the principles of affirmative action in the recruitment and hiring of faculty, staff, and personnel at all levels. This will require the commitment and active participation of trustees and presidents to assure an accelerated increase in addressing the underrepresentation, where it occurs, of blacks, Hispanics, women, and other Federally defined minority groups in all professional and non-professional positions.

Actions To Be Taken

1. The Department, in consultation with the institutions and State legal authorities, should develop policies and procedures to be used to effect planned reductions in staffing as student demand for higher education services declines.
2. The Board shall do all in its statutory power to insure the

implementation of effective affirmative action programs on the campuses and shall do all in its persuasive power to see that adequate and proper progress is made toward the realization of affirmative action goals.

3. The trustees of each public institution shall report to the Board of Higher Education on the affirmative action plans of their colleges and on progress made toward implementing them as specified in the Board of Higher Education resolution of December 15, 1978.

Adjustments for Inflation

Inflation continues to have a damaging impact upon the higher education system, and increases in State appropriations have not been adequate to ameliorate that inflationary impact. The apparent gains which higher education has made in State appropriations have been significantly eroded by inflation. Although State support in actual dollars per FTE student in New Jersey higher education institutions and other programs has risen significantly during the past ten years, the increase in support is much less dramatic when appropriations are compared in constant dollars. Therefore, regular adjustments should be made in public subsidy to cover cost increases due to inflation for all institutional sectors, the State share of such adjustments being proportionate to the level of State tax subsidy provided to each institutional sector.

It is the intent of the system to help slow the rising rate of inflation by minimizing cost increases. At the same time, however, the need to cover cost increases caused by inflation should be recognized by funding authorities.

Action To Be Taken

1. State appropriations for the higher education system should be adjusted annually to cover cost increases due to inflation.

State Aid for the Independent Colleges and Universities

Under the provisions of the Independent College and University Act (1979), State appropriation to independent institutions will be adjusted in proportion to the changes in the State support for the state colleges. The total appropriation for independent institutions will be determined by multiplying the number of New Jersey undergraduate students enrolled in eligible independent institutions during the previous academic year by 25% of the average direct net State support per FTE student for the state college sector in the previous year. The distribution of aid will take into account the number of New Jersey students enrolled at each institution, the number of New Jersey students at each institution who receive State or institutional student aid, and certain basic support costs.

This legislation provides State support to the independent sector on a coherent basis and in a way responsive to inflation. This linkage between funding for state colleges and independent institutions will enhance equity in the State's financing structure.

Action To Be Taken

1. The State should phase in full funding of the new aid mechanism for independent colleges and universities over three fiscal years.

State Aid for the County Colleges

To make State support responsive to inflation and to rectify the inadequacies of the current enrollment-driven funding model, the Commission to Study the Mission, Financing and Governance of the County Colleges recommended that State aid for county colleges be established to the extent of 43%, but not to exceed 50%, of annual approved and audited institutional expenditures across the sector. The Commission also recommended that the distribution of State aid to individual county colleges be accomplished in a manner which recognized inherent differences in program costs, particularly in the areas of basic skills remediation, high technology and health-related curricula, and which provided that a proportion of State aid would be allocated as categorical support in non-enrollment related areas.

The financing recommendations of the Commission were endorsed by the Board of Higher Education and incorporated into legislation, which has been introduced in the State Senate. If this legislation is enacted, a funding mechanism will be established for the county colleges which responds to the need for a non-enrollment driven funding model responsive to annual cost increases.

Action To Be Taken

1. The State should phase in full-funding of the financing mechanism for the county colleges contained in proposed legislation over a period of time as determined by the availability of funds in the appropriations process.

Autonomy of Institutional Financial Operations

It is essential to the proper functioning of colleges and universities that they maintain their freedom from governmental intervention and control to the maximum degree possible. In financial operations, as in education and research, colleges and universities should be permitted broad flexibility to decide the specific ways in which they expend funds to achieve institutional objectives. This flexibility should be held open to public view after the

fact rather than during its exercise, and the counter-judgments of funding authorities should be made in the succeeding year's budget process except, of course, in cases of criminal misuse of funds.

The higher education system must hold itself publicly accountable for its financial operations in order to persuade funding authorities to permit it the maximum degree of autonomy in the use of public funds in the future.

Although public institutions clearly cannot be completely autonomous, there is reason to question the extreme variation in the degree to which the State imposes procedural regulations upon the various public sectors. In most instances these variations are the consequence of legislation and regulations enacted in different eras. The state colleges are a particular case in point. While they receive proportionately less State support than the other senior public institutions, they are subject to more State control of their fiscal operating procedures. For example, while state college boards of trustees make such important decisions as those concerning the appointment of presidents, individual requests for travel reimbursement often require the successive approval of the college, the Department of Higher Education, and the Department of the Treasury. In addition, certain requests for services or products must be advertised and bids received before an expenditure is approved. Even in the case of specialized professional equipment which is available only from a single manufacturer, a procedure must be followed whereby the need to advertise is waived. This procedure tends to be as lengthy as the advertising process itself. Ironically, given the cumbersome nature of these State procedures, the state colleges also are given an April deadline for expending funds requiring advertised bids in a budget period which does not end until June 30. Therefore, the two month period at the end of each fiscal year is one in which critical expenditures cannot be made because there is not adequate time for the State to process appropriate forms.

State-level oversight of the finances and operations of public institutions not only is desirable but statutorily mandated. This is most effectively accomplished in the initial appropriation of budgets and the auditing process. Excessive review by the State of each individual expenditure within an approved budget, on the other hand, is counterproductive, time-consuming, and limits the ability of the institution to use resources effectively. During the past year, two teams of out-of-state consultants independently reported the observation that the effective management of resources at the state colleges, for example, is seriously hampered by unwieldy accounting procedures.

Actions To Be Taken

1. The Department, in consultation with all colleges and universities in New Jersey, should devise accountability measures for the system that will help insure continued or even expanded flexibility in financial operations in the future.
2. The Department should seek changes in existing legislation

to insure that all public institutions receive and dispose of State funds in the same manner as the State University now does.

Federal Support for Higher Education

The Federal government has become a significant participant in the support of higher education. Primarily, Federal support for higher education has taken the form of categorical aid through the allocation of funds for specific purposes and as such has been subject to changing Federal priorities. The provision of general support and operating costs has been chiefly the responsibility of state governments.

At present, Federal support of higher education is concentrated in two areas: research and student assistance. The heavy concentration of the Federal government on research and student aid is in response to two major public policy decisions. As the nation has moved from a selective to a broad access to higher education, the Federal government has been the chief provider of financial support to students from lower-income families primarily through the Basic and Supplementary Education Opportunity Grants, the College Work Study Program, and the National Direct Student Loan Program. (See the section on Financial Aid.)

The second policy decision recognized the importance of research to an increasingly complex technological society. Since the contributions of research cut across state borders and benefit the nation as a whole, and since basic research is conducted chiefly in the nation's universities rather than in the industries, the Federal government has become instrumental in supporting research in higher education. (See the section on Research and Scholarship.)

The importance of Federal financing of higher education necessitates its close coordination with the requirements of the states and institutions, the primary function of which should be to insure that Federal support flows as effectively and efficiently as possible to the students and institutions.

As support patterns change, all institutions of higher education in New Jersey will find it in their interests to seek increased support from private sources such as foundations, business and industry, and other private organizations and individuals. The public institutions, in particular, will have to devote special attention to such sources, which they might not have done in the past because their resource base has been so heavily assured from public funds.

Actions To Be Taken

1. Faculty and institutions should be encouraged to compete for Federal and foundation grants and institutions should be able to retain all grant and overhead funds.

2. Income from Federal grants should flow directly to the institutions and the institutions should have the responsibility to report in full the amounts and types of Federal support received so that the State is completely informed.

Uniform Accounting Structure

Since early 1970, the National Center for Higher Education Management Systems (NCHEMS), the American Institute of Certified Public Accountants (AICPA), and the National Association of College and University Business Officers (NACUBO), working in concert as the Joint Accounting Group (JAG), have advocated a uniform accounting structure for all institutions of higher education. Such a structure would be compatible with the industry audit guide of the AICPA for colleges and universities. For the CMDNJ, the NCHEMS classification system should be modified to incorporate the recommendations of the American Association of Medical Colleges (AAMC). The AICPA audit guide for the health care industry should be followed for the College's hospitals and clinics. Additionally, Federal pressure for the implementation of nationwide standards such as the System Hospital Uniform Reporting (SHUR) must be accommodated.

Individual institutions in New Jersey, which have outside independent audits, have presented their financial statements in JAG formats for the past several years. Public institutions, on the other hand, have followed a variety of budget formats to meet State needs and have also conducted their own accounts according to the long standing subelement structure recommended by the American Council on Education. The Department of Higher Education has used still another system in presenting its formula budget to the Bureau of the Budget, Department of the Treasury.

As a result of the use of several accounting and program structures to meet the needs of State agencies and outside auditors, there has been a distinct lack of comparability of financial data within the State as well as with colleges and universities in the rest of the country. The systemwide use of the JAG program classification system accounting structure and definitions would provide the opportunity for improved analysis of expenditures. In turn, this would provide eventually for a more effective allocation of public resources.

The county colleges have undertaken considerable work to adopt cost-finding principles associated with the NCHEMS Resource Requirements Prediction Model. While progress has been made in determining costs, work still remains in developing concepts for proper costing, not only at the county colleges, but also at the senior institutions.

There are several arguments against the use of cost data. Nevertheless, there also is pressure to know more about the costs of academic and administrative decisions.

Actions To Be Taken

1. The Chancellor should appoint a task force that represents each institutional sector to review the JAG program classification system, accounting structure, and definitions. After the task force has completed its work, all colleges and universities should apply generally accepted accounting principles for post-secondary education. The same representative task force should review existing cost-finding principles and establish common definitions and methodology so that institutions will have guidelines to enable them to produce comparable data. Cost standards should be formulated to yield uniform programs cost data within individual sectors for all programs and support services and the same cost standards should be applied across all sectors and institutions. Direct cost standards should be developed and implemented first. If it is determined that the full costing of programs is desirable, the second step should be developed and implemented first.
2. The State should assist the institutions to effect the necessary program classification and accounting structure changes so as to produce a common system which can be utilized by all colleges and universities.
3. Each institution should present an annual financial report to the Chancellor who will, in turn, prepare a summary of these institutional statements for the Board, the Governor, and the Legislature.

Financing Assumptions

The estimated ten-year change in the required level of State tax support for higher education set out below is in constant dollars unadjusted for inflation, using the actual State tax support appropriation for fiscal year 1981 as the base year. The enrollment targets used for each sector are the "baseline" projections set out in earlier chapters.

Higher Education, Net State Appropriation (millions)

<u>FY 1981</u>	<u>FY 1991</u>	<u>Change</u>
\$479.2	\$505.8	+\$26.6

This estimate assumes the full funding of the new aid mechanisms enacted for independent institutions and proposed for county colleges. It also assumes the full development costs for health professions projected in the Department's October 1978 study and increased debt service costs due to

the anticipated passage of a higher education bond issue during the planning period. Other funding factors remain relatively stable in this estimate, which further assumes no significant change in the State's present tax structure or its basic economy.

The higher education system draws its financial support from sources other than State appropriations, primarily from students, the Federal government, and private foundations or organizations. Even assuming rate increases to the maximum tuition policy levels, revenues from students are not likely to offset the increase in State tax support required during the planning period. Although revenues from private sources are not likely to increase sharply, revenues from the Federal government might increase enough during the 1980s to keep the system in financial balance if the present level of State tax support only remains stable. If the increase in revenues from the Federal government does not occur, the major alternatives for the higher education system are to secure an improved share of the State budget, and to reallocate resources within its historical State tax support level, or both.

APPENDICES

APPENDIX A

MEMBERS OF THE STATEWIDE PLAN TASK FORCES

Boundaries for Admission Policies

Ms. Virginia L. Laughlin - Bergen County College
Dr. Otto R. Mauke - Camden County College
Ms. Nancy G. Iszard - Richard Stockton State College
Dr. William J. Maxwell - Jersey City State College
Mr. Mark Guyre - New Jersey Student Association
Dr. Merle F. Allshouse - Bloomfield College
Dr. Rodney O. Felder - Upsala College
Ms. Natalie Aharonian - Rutgers University
Dr. Franklyn G. Jenifer - Rutgers University
Dr. L. Bryce Andersen - New Jersey Institute of Technology
Mr. Gordon Mac Innes - Public Member
Ms. Dorothy E. Loper - Middlesex County College
Dr. Edward Saiff - Ramapo College
Dr. Frederic F. Kreisler - Staff Coordinator
Dr. Stanley S. Bergen - College of Medicine and Dentistry of New Jersey,
Chairperson

Programmatic Mission Differentiation

Dr. James K. Martin - Rutgers University
Dr. Edward Nawy - Rutgers University
Dr. David Dickson - Montclair State College
Ms. Martha Sachs - Ramapo State College
Dr. Rose Channing - Middlesex County College
Dr. John Gallagher - Brookdale Community College
Dr. Paul Hardin - Drew University
Sister M. Anne John - Caldwell College
Ms. Jeanne Fox - New Jersey Student Association
Dr. John Martin - College of Medicine and Dentistry of New Jersey
Dr. Frank Erath - Trenton State College
Dr. Tirzah Schutzengel - Bergen Community College
Ms. Amorita Suarez - Staff Coordinator
Dr. Saul Fenster - New Jersey Institute of Technology, Chairperson

Non-Traditional Education

Mr. Homer Bruno - Manpower Service Council
Mr. Karl Linn - New Jersey Institute of Technology
Dr. Katherine Restaino - Saint Peter's College
Mr. Barry Semple - New Jersey Department of Education
Ms. Jean Titterington - Thomas A. Edison State College
Dr. Nathaniel Pallone - Rutgers University
Dr. Charles Vevier - College of Medicine and Dentistry of New Jersey
Dr. Charlotte Glickfield - Cumberland County College
Ms. Elizabeth Adams - New Jersey Public Television
Dr. George Harris - Essex County College
Dr. Charles Nanry - Rutgers University
Mr. Frederick Gruel - Staff Coordinator
Dr. Arnold Fletcher - Thomas A. Edison State College, Chairperson

Libraries

Mr. Raymond S. Gurak - County and Municipal Study Committee
Dr. John E. O'Connor - New Jersey Institute of Technology
Sister Marie Rousek - College of St. Elizabeth
Ms. Barbara F. Weaver - New Jersey State Library
Mrs. Arabelle Pennypacker - Council of Library Education
Dr. Thomas H. Mott - Rutgers University
Mr. Philip Rosenstein - College of Medicine and Dentistry of New Jersey
Mr. George P. Marks, III - Union College
Mr. Hendrick Edelman - Rutgers University
Ms. Toni Kuzma - Somerset County College
Ms. Abigail Dahl-Hansen - Princeton University
Ms. Marion A. Smitherman - Burlington County College
Mr. Joseph L. Ravelli - Staff Coordinator
Dr. Robert L. Goldberg - William Paterson College, Chairperson

Health Professions Education Financing

Dr. Lowell Herron - Fairleigh Dickinson University
Sister Hiltrude Koba - Felician College
Mr. Paul Hilf - Middlesex County College
Ms. Genia Berk - Consumer Representative
Mr. Charles Fusco - Rutgers University
Dr. John Colaizzi - Rutgers University
Mr. Edward Callahan - Kean College
Dr. Joan Munley - Trenton State College
Ms. Susan Pantis - Gloucester County College
Dr. Bernard Peltz - Salem County College
Mr. Michael Cardman - College of Medicine and Dentistry of New Jersey
Ms. Patti Vasilenko - Staff Coordinator
Dr. Samuel Bieber - Fairleigh Dickinson University, Chairperson

Vocational Education

Dr. William Wenzel - New Jersey Department of Education
Mr. Anthony Zuccarello - Mercer County College
Dr. Saul Orkin - Union College
Dr. David Tyrell - Middlesex County College
Mr. Charles Rosen - New Jersey Advisory Council on Vocational Education
Mr. Louis Cress - Private Career Schools
Dr. Joseph English - Area Vocational/Technical Schools
Ms. Marilyn Blazovsky - State Manpower Commission
Dr. Carolyn Prager - Staff Coordinator
Dr. Philip Phelon - Cumberland County College, Chairperson

Basic Skills and Testing Policy

Dr. Janice Boone - Jersey City State College
Mr. William T. Daly - Richard Stockton State College
Mr. Arnold Gelfman - Brookdale Community College
Ms. Lauretta Gouraige - Seton Hall University
Mr. Edison Jackson - Essex County College
Dr. Frederic F. Kreisler - New Jersey Department of Higher Education
Dr. Edward Morante - New Jersey Institute of Technology
Mr. Richard Nurse - Rutgers University
Dr. Charles Pine - Rutgers University
Dr. William D. Lutz - Staff Coordinator/Chairperson

Improving Education to Urban Areas

Ms. Willa Cwik - Mercer County Schools
Ms. Maria Mercado - ASPIRA
Mr. William Phillips - New Jersey Department of Community Affairs
Ms. Veronica Taylor - Educational Opportunity Fund Board of Directors
Mr. Curtis Jackson - Educational Opportunity Fund Directors' Association
Mr. Lorenzo Littles - Urban Conference
Mr. Eugene Campbell - Urban Conference
Dr. Charles Vivier - College of Medicine and Dentistry of New Jersey
Dr. Stanley Winters - New Jersey Institute of Technology
Ms. Loree Adams - New Jersey Student Association
Dr. Susan Fainstein - Rutgers University
Dr. Joseph Drew - Jersey City State College
Dr. Lawrence Winchell - Atlantic County College
Dr. Salvador Flores - New Jersey Department of Human Services
Mr. Gilbert Hatcher - Urban Conference
Mr. James Amos - New Jersey Department of Labor and Industry
Dr. Earl Farrow - Urban Conference
Mr. Theodore H. Freeman, Jr. - Urban League of Hudson County
Mr. Michael Cull - Staff Coordinator
Mr. Aaron Campbell - Seton Hall University, Chairperson

Computers

Dr. Frederick A. Russel - New Jersey Institute of Technology
Dr. Alban Reid - Bergen County College
Dr. Joseph R. Denk - New Jersey Education Computer Network
Dr. Wolf Helmreich - College of Medicine and Dentistry of New Jersey
Mr. Eugene P. Young - Rutgers University
Dr. Bruce Arden - Princeton University
Dr. M. Douglas McIlroy - New Jersey Bell Telephone Laboratories
Mr. William J. Stanton - Division of Data Processing and Telecommunications
Dr. Kenneth King - City University of New York
Dr. James C. Emery - Interuniversity Communications Council, Inc.
Dr. Jerry Wayne Brown - Rider College
Dr. Saul Levy - Rutgers University
Dr. Donald R. Arnold - Staff Coordinator
Dr. Seymour C. Hyman - William Paterson College, Chairperson

High School/College Articulation

Mr. Joseph Bordonaro - Student, New Jersey Institute of Technology
Dr. Seymour C. Hyman - William Paterson College
Mr. Michael McCarthy - Student, Bernardsville High School
Rev. Aidan C. McMullen - Saint Peter's College
Ms. Pamela Wilson - New Jersey Department of Education
Mr. George McNally - Verona High School
Dr. Eugene Bradford - Caldwell - West Caldwell
Dr. Glenn E. Brube - Bergenfield High School
Dr. James Kirby Martin - Rutgers University
Ms. Linda Pedrick - Sterling High School
Dr. Howard F. Miller - Staff Coordinator
Dr. Etta Ehrlich - Leonia, NJ, Chairperson

Financial Aid

Mr. Ray Frazier - Educational Opportunity Fund Directors' Association
Ms. Carol Pagano - New Jersey Association of Student Financial Aid
Administrators
Mr. Jeff Belinski - Student Advisory Committee
Dr. Jerome Lieberman - Higher Education Assistance Authority
Mr. Alexander G. Sidar - Educational Opportunity Fund Board
Dr. Muriel Vogel - New Jersey Department of Education
Mrs. Phyllis Rodgers - Watchung Hills Regional High School
Ms. Louise Perkins - Statewide Information Network for Education
Dr. Gordon Van de Water - Staff Coordinator
Dr. Luis Nieves - Student Assistance Board, Chairperson

Student Facilities and Services

Ms. Jessie Gist - Educational Opportunity Fund Directors' Association
Mr. Julian Robinson - Jersey City State College
Dr. Glenn Gamble - Rutgers University
Mr. Kenneth Herman - Student, Rutgers University
Mr. John MacIntyre - New Jersey Student Association
Ms. Margaret Hoppe - Seton Hall University
Mr. Wallace Kaencig - Atlantic County College
Mr. Harold Hirshman - Rutgers University
Dr. Constance Murray - New Jersey Institute of Technology
Mr. Clayton Powell - Community College Student
Dr. Anthony Di Giorgio - Public Member, Trenton State College
Mr. Marvin Scott - Student, Rider College
Dr. Joseph Tassoni - College of Medicine and Dentistry of New Jersey
Dr. Marshall Harth - Ramapo State College
Ms. Margaret King - Ocean County College
Mr. Scott Hoffman - Rutgers University
Mr. W. David Burns - Rutgers University
Dr. Michael Silverman - Staff Coordinator
Dr. Jere D. Paddack - New Jersey Association of State Colleges
Chief Student Affairs Officers, Chairperson

Financial Principles

Dr. Aaron R. Fulhamus - New Jersey Institute of Technology
Dr. Richard Cost - Association of Independent Colleges and Universities
in New Jersey
Mr. Robert T. Cubberley - New Jersey Department of Treasury
Mr. Peter Lawrence - Office of Fiscal Affairs
Dr. Joseph Seneca - Rutgers University
Dr. George Potter - Ramapo State College
Dr. Elliot Mininberg - Montclair State College
Ms. Eileen Carey McCoy - Somerset County College
Mr. John Hanley - Mercer County Community College
Mr. Gary K. Hooper - New Jersey Student Association
Mr. Edward Sharapoff - College of Medicine and Dentistry of New Jersey
Mr. Frederick Grossman - Middlesex County College
Mr. Jerome Harris - Staff Coordinator
Mr. Marvin Greenberg - Rutgers University, Chairperson

Academic Accountability

Dr. Bernard Peltz - Salem County College
Dr. Harmon Pierce - Eurlington County College
Ms. Patricia R. Duffy - Trenton State College
Dr. Gordon Goewey - Trenton State College
Mr. David Geist - New Jersey Student Association
Dr. Norman Samuels - Rutgers University
Dr. Evelyn Wilson - Rutgers University
Dr. Robert Ackerman - Drew University
Dr. Jean Badgley - Brookdale Community College
Dr. Elizabeth Elmore - Richard Stockton State College
Ms. Ina Labiner - College of Medicine and Dentistry of New Jersey
Dr. Matthew J. Quinn - Staff Coordinator
Rev. Edward Glynn - Saint Peter's College, Chairperson

Bilingual Higher Education

Dr. Irving Bloom - Jersey City State College
Ms. Maria Canino - Livingston College
Mr. Frederick Carrigg, Jr. - Union City
Ms. Catherine Havrilesky - New Jersey Department of Education
Mr. Eric Hepburn - Middlesex County College
Ms. Anna Lopez - Bureau of Bilingual Education
Dr. Gary Keller - Eastern Michigan University
Ms. Adele MacGowan - Atlantic County Community College
Mr. William McCartan - Seton Hall University
Ms. Maria Mercado - Educational Testing Service
Ms. Yvonne Rodriguez - Glassboro State College
Ms. Virginia Rojas - Trenton State College
Ms. Gail P. Rottweiller - Rutgers University
Dr. Winston Yang - Seton Hall University
Ms. Estela Bensimon - Staff Coordinator
Dr. Gustavo Mellander - Passaic County College, Chairperson

Technical Subcommittee on Demand

Dr. E. Timothy Lightfield - Mercer County Community College
Mr. John R. Sinton - State Occupational Coordinating Committee
Dr. Robert McVane - Montclair State College
Ms. Judith Maloney - Bloomfield College
Mr. Roy B. Helfgott - New Jersey Institute of Technology
Dr. R. Bradford Murphy - Public Member, NJ Bell Telephone Laboratories
Dr. William Demeritt - Trenton State College
Dr. Lewis Dars - New Jersey Department of Higher Education
Mrs. Ayse Ergin - New Jersey Department of Higher Education
Dr. Adolph I. Katz - Staff Coordinator
Dr. Don B. Oppenheim - Rutgers University, Chairperson

Graduate Education Subcommittee

Dr. Nathan Weiss - Kean College
Dr. Edward Cafruny - College of Medicine and Dentistry of New Jersey
Dr. Arnold Allentuch - New Jersey Institute of Technology
Dr. Samuel Bieber - Fairleigh Dickinson University
Dr. Kenneth Wolfson - Rutgers University
Dr. Patrick Diassi - New Jersey Research and Development Council
Dr. Lutz K. Berkner - Staff Coordinator
Dr. Alvin B. Kernan - Public Member, Chairperson

Regionalization in Health Professions

Ms. Shirley Brown - Rutgers University
Sister Jacqueline Burns - College of Saint Elizabeth
Dr. Richard Cross - College of Medicine and Dentistry of New Jersey
Dr. William D'Elia - Medical Society of New Jersey
Ms. Mary Germain - New Jersey State Nurses' Association
Ms. Lois Graham - New Jersey Department of Education
Dr. John Martin - College of Medicine and Dentistry of New Jersey
Dr. Theodore Marton - Richard Stockton State College
Mr. Joel May - New Jersey Hospital Association
Ms. Nancy Moore - New Jersey Department of Education
Dr. Peter Pappas - Morris County College
Ms. Charlotte Sadowski - Consumer Representative
Ms. Priscilla Woolley - Staff Coordinator
Dr. Rose Channing - Middlesex County College, Chairperson

APPENDIX B

ENROLLMENT PROJECTION METHODOLOGY

The State of the Art

The enrollment projections in the first draft of the Statewide Plan were based on a model originally designed for New York State. They have now been modified in several ways to reflect the New Jersey situation more closely and to change certain assumptions which should produce more reliable results. The two major changes are: (1) to calculate a separate College-Going Rate for two-year colleges which is adjusted to project the number of older freshmen who are not recent high school graduates on the basis of the total population over age fifteen rather than the current high school graduates, and (2) to project part-time enrollments on the basis of the participation of the population over fifteen rather than the total population. These two changes primarily affected the community colleges, where approximately 5,000 full-time and 3,000 part-time students were added in the "baseline" projections for 1985 above the numbers which would have resulted from the previous assumptions. If these projections turn out to be correct, the community colleges will experience annual FTE increases through 1983 and have 1,000 more FTE in 1985 than in 1979. Given the existing capacity of the community colleges, and the limited financial resources available to higher education for expansion over the next decade, the part-time enrollment goals for 1985 were established at about nine per cent above the "baseline" level rather than 20% above the "baseline" which was the goal presented in the first draft of the Plan.

As the Department of Higher Education worked to refine the enrollment projection model during the last year, it became evident that the model was not designed to allow exact changes to be made which would directly translate enrollment policy goals into the "high" series of enrollment projections. The goals of increasing the proportion of the high school graduates going to college and reducing the proportion of college-bound high school graduates going to out-of-state colleges could only be approximated by changing the value of the College-Going Rates. The goal of increasing freshman to sophomore retention could only be approximated by changes in the Lower Division Retention Rate, which also measured many other factors. Only the two-year college degree-holding transfers from out-of-state could be directly changed in the model; the goal of increasing non-degree transfer from other states had to be approximated through changes in the Lower Division Retention Rate. The model projected out-of-state freshmen on the basis of high school graduate projections in other states, but the policy goals for out-of-state student enrollments were expressed in terms of the proportion of non-resident students in the freshman class. Translating the policy goals through the model required trial-and-error changes in the college-going rate (to New Jersey) for out-of-state students until the goal was met.

Most of these shortcomings have been eliminated in a new model which the Department of Higher Education designed for institutional enrollment projections. This model allows for changes in the assumptions about transfers,

out-of-state freshmen and retention which may be directly expressed in the same terms as the policy goals. Despite all the approximations necessary in using the modified New York model, it is reassuring that the Statewide "baseline" totals generated through the new institutional model (by summing the total baseline projection of all individual colleges) is within two per cent of the "baseline" projections published in this Plan. The Department of Higher Education is now working on a Statewide version of the institutional projection model to replace the modified New York model in use at the present.

In the sections which follow, the methodology of the modified New York model that were used to project (1) full-time undergraduates, (2) part-time undergraduates, and (3) graduate and first professional students are explained in more detail.

(1) Full-Time Undergraduate Projections

Overview

The model begins by projecting the high school graduates for each county for each year through 1995. It then applies a "College-Going Rate" (the total New Jersey freshmen from the county divided by the total public high school graduates from the county) to the projected high school graduates to generate a pool of college-bound students for each county for each year. The college-bound students are allocated as freshmen to each New Jersey institution according to the historical share of students from that county who have enrolled at that institution. For each college the number of freshmen coming from each county plus the number coming from out-of-state are added to produce the total number in the freshman class. The total number of freshmen at a college is then multiplied by a Lower Division Retention Rate to generate the total number of lower division students, and at four-year institutions an Upper Division Retention Rate is applied to the number of lower division students to generate the total upper division students. The projected number of two-year college degree transfers is added to the sum of the lower and upper division to generate the projected total enrollment at the four-year college for a given year. The college totals are aggregated by sector, and the sector totals are aggregated for the statewide grand totals.

The model includes five "policy variables" which may be changed to reflect different assumptions about the future. The policy variables are the New Jersey College-Going Rate, the Lower Division and Upper Division Retention Rates, the College-Going Rate (to New Jersey) of out-of-state freshmen, and the number of two-year college graduates who transfer to four-year colleges.

The "baseline" projections assume that there will be no major changes in enrollment patterns, so the rates for the policy variables have been set at the historical average rates for the last five years. For the "high" projections, which have been adopted as the enrollment goals, the policy variables have been set at rates which reflect the policy goals in this Plan as

well as the admission and enrollment policy statements submitted to the Department of Higher Education by individual institutions during the planning process, which are summarized in Chapter 5. For the "low" projections the average College-Going Rate has been reduced by about four per cent below the "baseline" level and the other policy variables have been assumed to continue at the historical five-year average.

Components of the Full-Time Undergraduate Model

(a) Public High School Graduate Projections

Public high school graduates are projected for each New Jersey county through 1995 by using a "cohort survival" method, which takes a class of pupils in a certain grade during a given year and calculates the number that will ultimately "survive" to high school graduation. This is done by applying the five-year average grade-to-grade "transition ratios" in the elementary and secondary schools of each county. "Transition ratios" are simply the number of pupils in one grade divided by the number of pupils in one grade lower the year before. They measure the number of pupils who make the "transition" from one grade to the next.* For example, since we now only have elementary and secondary school enrollment data available through the fall of 1979, in order to project the number of high school graduates in the spring of 1981 we multiply the actual number of juniors in the fall of 1979 by the average transition ratio to junior to senior year in fall 1980. Then we multiply the projected number of seniors in the fall of 1980 by the five-year average graduation rate to project the number of high school graduates in the spring of 1981.

To project the number of high school graduates in 1990 we start with the actual number of pupils in the second grade in 1979. Obviously, the projection of the high school graduates for 1981, which is based on the number of high school juniors in 1979, is much more reliable than the projection of high school graduates for 1990, which is based on the number of second graders in 1979. The probability that these second graders will actually graduate from high school in a particular county will depend on unpredictable changes in the drop-out rate and family migration patterns during the next decade.

The three most recent series of high school graduate projections are shown in Table 1. Note that the number of graduates projected for the spring of 1985 (who will make up the freshman class of 1985-86) has dropped six per cent from the projection used as the basis of the full-time enrollment projections in the First Draft of the Statewide Plan. This reflects the fact

*Transition ratios actually measure the net change in the size of a class. For example, next year's seniors are this year's juniors minus those who have dropped out or moved out of the county plus those who have moved into the county.

that the elementary and secondary school population is declining faster than was projected a few years ago.

(b) The College-Going Rate

The First Draft used a single College-Going Rate for each county to project the total number of freshmen for all sectors. The College-Going Rate for a county was calculated by dividing the total number of New Jersey first-time, full-time freshmen from that county enrolled anywhere in New Jersey in the fall by the total number of public high school graduates in the county in the spring of the same year. Since first-time, full-time freshmen also include graduates of private high schools, GED holders, and high school graduates of previous years, the College-Going Rate measures more than the proportion of current public high school graduates who go to college.

The College-Going Rate is a useful and broad index for comparing actual enrollment trends, because, among other things, it includes the ratio of older students to current high school graduates in the freshman class. However, we know that during the next decade this ratio is going to change because the number of current high school graduates (in the denominator of the CGR) will decline, while the number of non-current high school graduates (in the numerator) will increase. This does not significantly affect the projections for most four-year colleges where only about 10% of the freshmen are not current high school graduates. But it leads to a significant under-estimation in projecting the freshman class in two-year colleges, where 40-45% of the first-time, full-time freshmen are older adults who did not graduate from high school the same year in which they entered college. These older community college freshmen are drawn from age groups in the population which are growing, so they cannot adequately be projected using a College-Going Rate which is based on a declining number of high school graduates.*

In order to correct for this imbalance, separate county College-Going Rates were calculated for four-year and for two-year colleges. For the four-year institutions the College-Going Rate was calculated by dividing the number of New Jersey full-time, first-time freshmen from a county attending any New Jersey four-year college by the total number of public high school graduates in the county in the spring of the same year.** For the "baseline" projections the 1975-79 five-year average rate of about 24 New Jersey freshmen per 100 public high school graduates was assumed. For the "high" enrollment goals this rate was assumed to increase to 25 per hundred by 1985 and 26 per hundred by 1990. The effect of these "high"

*See the projections of the population over age fifteen in Table 1.

**The only change is that the College-Going Rate is now specific for four-year colleges only, because only the freshmen at New Jersey four-year colleges are included in the numerator.

assumptions is to increase the number of in-state freshmen at four-year colleges by 800 above the "baseline" projection in 1985 and by 1200 in 1990.

Another important component of the College Going Rate is the ratio of in-state to out-of-state enrollments of New Jersey high school graduates. If more New Jersey high school graduates enroll in New Jersey colleges, the rate will increase. This potential change is included in the "high" projections.

For the two-year colleges the College-Going Rate was adjusted to include large numbers of older freshmen who are not current high school graduates and to project them on the basis of the growing adult population rather than the declining high school graduates. The two-year college freshmen were projected from two separate "pools", the projected public high school graduates and the projected general population over age fifteen, beginning with the assumption that the older freshmen represented an average of 40% of all two-year college freshmen. The results were combined to produce an adjusted "baseline" average two-year College-Going Rate of about 19 freshmen per hundred public high school graduates in 1979, 23 per hundred in 1985, and 24 per hundred in 1990. The adjusted "baseline" rate assumes that the public high school graduates and the older students will continue to attend two-year colleges at the same rate as in 1979. However, the adjusted "baseline" rate increases because the ratio of older freshmen to freshmen who are current high school graduates increases substantially between 1979 and 1985, and then again between 1985 and 1990.

The goal assumed in the "high" series is to increase the two-year college adjusted College-Going Rate to 24 per hundred by 1985 and to 25 per hundred by 1990. This would have the effect of increasing the community college freshman class 400 above the "baseline" in 1985 and 600 above the "baseline" in 1990.

(c) The Lower Division Retention Rate

The Lower Division Retention Rate is calculated for each institution by dividing the number of all lower division students (excluding first-time freshmen) in one year by the total number of first-time freshmen of the previous year. The numerator therefore includes sophomores, non-degree transfers, additional spring enrollments readmitted students and others who have already taken a few courses, and the rate is greater than one at most institutions (the statewide five-year average is 1.3). It is therefore not purely a retention rate, but a broad measure used to overcome widespread inconsistencies among institutions in the definition of categories, data deficiencies, and the relatively undeveloped state of retention studies.

The Lower Division Retention Rate includes a measure of actual freshman retention, but it also includes measures of many other factors, such as the rate of non-degree transfers. There are approximately 3,500 transfer students without degrees coming from out-of-state institutions included in

the Lower Division Retention Rate. Therefore the assumptions about the increase in the Lower Division Retention Rate in the "high" projection series approximate two of the statewide enrollment goals, to increase student retention six percentage points by 1990 and to increase out-of-state non-degree transfers 20% above the 1979 level by 1990.

(d) The Upper Division Retention Rate

The Upper Division Retention Rate is calculated for every four-year institution by dividing the total upper division enrollments in a given year by the lower division enrollments two years earlier. This rate provides a good estimate of the historical rate of persistence of students from the lower to the upper division, and is a much better measure of actual retention than the Lower Division Rate. However, the rate also includes non-degree transfers returning to New Jersey after two years of out-of-state enrollments. The five-year average Upper Division Retention Rate for New Jersey four-year colleges is about 70%. The goal of increasing this to 73% by 1985 and to 76% by 1990 is one of the assumptions in the "high" projection series.

(e) Transfer Students

While transfer students without degrees are projected through the Lower Division Retention Rate (see above), students transferring with degrees from two-year colleges in New Jersey are treated as a separate policy variable in the model. There were about 3,500 degree holding transfer students entering four-year colleges in New Jersey in 1979, and the goal is to increase this number 15% by 1985 and 20% by 1990. The "high" series assumes that the number of transfer students (degree holding in-state students and non-degree holding out-of-state students) will increase by 1000 above the 1979 level in 1985 and by 1400 in 1990.

(f) Out-of-State Freshman Enrollments

In 1979 residents from states other New Jersey made up approximately 27% of the freshmen at the independent colleges, seven per cent at Rutgers, and three per cent at the state colleges and N.J.I.T. The "baseline" projections assume a continuation of the same rates, so the numbers of out-of-state freshmen are projected to drop in proportion to the New Jersey freshmen. The "high" series assumes that the out-of-state goals are achieved, namely, that Rutgers and N.J.I.T. will have 12% of the freshmen from out-of-state by 1985 and 15% by 1990, and that the state colleges will reach five per cent by 1985. Achieving these goals would have the effect of adding an additional 500 out-of-state freshmen above the "baseline" in 1985 and in 1990 at the four-year public institutions. In the independent sector the "high" series adds about 900 more out-of-state freshmen above the "baseline" in 1985 and 600 more in 1990.

(2) Part-Time Undergraduate Projections

Part-time undergraduate enrollments are projected on the basis of the total

New Jersey population over age fifteen and the proportion of this group enrolling as part-time students (which is called the College Participation Rate). In 1979 the statewide average College Participation Rate was 189 part-time students per 10,000 New Jersey residents over age fifteen.

The College Participation Rate for each county in 1979 is calculated by dividing the total number of part-time students from that county attending any college in New Jersey by the estimated total population over age fifteen in that county in 1979. The 1979 county rate is then applied to the projected population over fifteen in the county in 1985 and in 1990 to arrive at the "baseline" part-time student projection.*

Part-time enrollments at Rutgers, N.J.I.T., and the independent colleges have not changed significantly since 1975, but part-time enrollments at the state colleges have increased at the average annual rate of two per cent since 1975, and the community college part-time enrollments have increased at the average annual rate of eight per cent in the last five years. The goal for the state colleges and the community colleges is to continue increasing part-time enrollments.

The "high" projection series assumes that the goal for the state colleges is to increase part-time enrollments from 40 per 10,000 over fifteen in 1979 to 45 per 10,000 in 1985 and for the community colleges to increase part-time enrollments from 106 per 10,000 in 1979 to 115 per 10,000 in 1985. The part-time enrollment goal for N.J.I.T. and the independent colleges is to maintain the same participation rates as in 1979 (which means that the number of part-time students should increase because the population over age fifteen is projected to increase). Rutgers has not set a specific goal for part-time students (most of whom attend University College), so the goal has been set to maintain the same number of students as in 1979.

(3) Graduate and First Professional Enrollments

Graduate enrollments are much less dependent on demographic changes than undergraduate enrollments. They tend to vary with the condition of the economy (when unemployment rises, graduate enrollments rise), the public perception of the job market (graduate business enrollments are increasing, enrollments in doctoral programs in the humanities are decreasing), and the availability of fellowships and veterans benefits (both are decreasing). Because of the importance of these unpredictable factors, graduate enrollment projections are highly uncertain, and no reliable projection methodology is available.

However, enrollments in first professional programs (medicine, dentistry,

*County population estimates and projections are taken from New Jersey Department of Labor and Industry, "New Jersey Revised Total and Interim Age and Sex Population Projections, 1980-2000," (April, 1979).

law) can be projected with a greater degree of certainty. These enrollments tend to remain very stable over time, because the number of applicants to medical, dental, and law schools far exceeds the relatively fixed number of spaces available. The projections assume that first professional enrollments will either remain at the 1979 level of about 5,600 students throughout the next decade or that they will increase to 6,000, if the plans to add 400 additional spaces at C.M.D.N.J. are implemented.

The graduate enrollment projections are based on the historic ratio between the total number of graduate students in one year and the full-time undergraduate enrollments at New Jersey four-year institutions one year earlier. This ratio has been very stable during the last ten years, averaging about 38 graduate students per 100 full-time undergraduates in New Jersey four-year colleges in the previous year. The "low", "baseline", and "high" graduate enrollment projections for 1985 and 1990 are calculated by simply taking 38% of the "low", the "baseline" and the "high" four-year college full-time enrollment projections in 1984 and 1989. Then 5,600 first professional students are added to the "low" projections and about 6,000 students are added to the "baseline" and "high" projections to arrive at the projected total number of graduate and first professional students.

APPENDIX B

Table 1

Projections of New Jersey Public High School Graduates
and Population Over Age Fifteen*

<u>Public High School Graduates</u>				
	(1) <u>First Series:</u> <u>DHE 1977</u> Statewide Plan, First Draft	(2) <u>Second Series:</u> <u>DHE 1979</u>	(3) <u>Third Series:</u> <u>DHE 1980</u> Statewide Plan, Second Draft	(4) New Jersey Population Over Age Fifteen
<u>Spring</u>				
1975	97,985	97,985	97,985	5,554,000
1976	97,494	97,494	97,494	5,602,000
1977	98,548	97,375	97,375	5,650,000
1978	98,001	97,079	97,079	5,698,000
1979	59,487	98,200	97,634	5,746,000
1980	98,330	95,600	94,900	5,794,000
1981	98,300	94,800	93,900	5,871,000
1982	98,250	94,700	92,600	5,949,000
1983	93,900	90,600	88,400	6,027,000
1984	89,000	86,200	84,200	6,104,000
1985	85,500	82,400	80,400	6,182,000
1986	82,300	78,900	77,000	6,238,000
1987	83,400	79,700	77,700	6,295,000
1988	84,500	80,800	78,500	6,351,000
1989	77,900	76,700	74,100	6,408,000
1990	71,500	68,400	66,200	6,464,000
1991	68,300	62,200	62,300	6,527,000
1992	68,800	64,600	59,300	6,590,000
1993	67,000	62,900	61,600	6,653,000
1994	66,600	62,600	61,200	6,715,000
1995	69,300	65,000	63,600	6,778,000

*Underlined numbers are actual. Population 1975 to 1979 is estimated. All other numbers are projections.

- (1) Technical Report of the New Jersey Statewide Plan Subcommittee on Demand (March 1979)
- (2) DHE Research Note 79-10 (December 1979). "Projected Public High School Graduates and County Population (1979 to 1995)"
- (3) Updated June, 1980
- (4) New Jersey Department of Labor and Industry, "New Jersey Revised Total and Interim Age and Sex Population Projections, 1980-2000," (April, 1979).

APPENDIX B

Table 3

COLLEGE PARTICIPATION RATES FOR PART TIME ENROLLMENTS*

SECTOR	ACADEMIC YEAR	LOW RATE	BASELINE RATE	HIGH RATE (Goal)	
Rutgers and NJIT	1979-80	.0016*	.0016	.0016	NJIT
	1985-86	.0015	.0016	.0016	Rutgers**
	1990-91	.0014	.0016	.0016	
State Colleges	1979-80	.0040	.0040	.0040	
	1980-81	.0040	.0040	.0041	
	1983-84	.0040	.0040	.0043	
	1985-86	.0040	.0040	.0045	
	1990-91	.0040	.0040	.0045	
Community Colleges	1979-80	.0106	.0106	.0106	
	1980-81	.0106	.0106	.0108	
	1983-84	.0106	.0106	.0115	
	1985-86	.0106	.0106	.0115	
	1990-91	.0106	.0106	.0115	
Independent Colleges	1979-80	.0020	.0020	.0020	
	1985-86	.0019	.0020	.0020	
	1990-91	.0019	.0020	.0020	
Thomas A. Edison College	1979-80	.0005	.0005	.0005	
	1985-86	.0005	.0005	.0006	
	1990-91	.0005	.0005	.0006	
Statewide Total	1979-80	.0189	.0189	.0189	
	1980-81	.0189	.0189	.0193	
	1983-84	.0189	.0189	.0199	
	1985-86	.0188	.0189	.0208	
	1990-91	.0183	.0189	.0208	

* 16 Part-Time students per 10,000 State population over age 15.

** No part-time goals established. Rates have been set to keep 1979 numbers stable.

APPENDIX C

MINIMUM REQUIREMENTS FOR DEGREES AND DEFINITIONS

I. Minimum Requirements for Degrees:

- A. Each educational program leading to an associate degree should normally consist of courses carrying a minimum of sixty semester credit hours or the equivalent in quarter hours, courses, or other measurement used by the college. The associate degree program should normally require either full time attendance for four academic terms or the equivalent in part time attendance, independent study, work study, or other similar programs, but institutions may award the associate degree to students who have completed the credit requirements at an accelerated pace or can otherwise demonstrate that they have met the measurable objectives of the program. The award of an associate degree should entail a minimum of 25% of the work being done at the institution awarding the degree.
- B. Each educational program leading to a baccalaureate degree should normally consist of courses carrying a minimum of 120 semester credit hours or the equivalent in quarter hours, courses, or other measurement used by the college. The baccalaureate degree program should normally require either full time attendance for four academic years or the equivalent in part time attendance, independent study, work study, or other similar programs, but institutions may award the baccalaureate degree to students who have completed the credit requirements at an accelerated pace or can otherwise demonstrate that they have met the measurable objectives of the program. The award of the baccalaureate degree should entail a minimum of 25% of the work being done at the institution awarding the degree.
- C. A master's degree is an advanced graduate degree, ranking above the bachelor's degree and below the doctoral degree. Normally, a disciplinary master's degree requires a minimum of either one full academic year of graduate study or the equivalent in part time attendance; for a professional master's degree, the minimum is customarily somewhat greater. Intensive study, independent study and research are ordinarily necessary for a student to achieve this degree.
- D. An educational specialist degree is a terminal degree in a professional education beyond the master's degree.
- E. A doctoral degree is a terminal degree representing the advanced scholarship and mastery of a body of knowledge and appropriate research techniques in a particular discipline.
- F. A standard semester is traditionally a period of academic activity of 15 to 17 weeks duration.
- G. A credit hour ordinarily is the fundamental unit for the quantitative measure of student progress toward a degree in an insti-

tution of higher education. The college or school awarding the degree shall determine the number of credits a course carries. In the traditional lecture mode of instruction, one credit hour ordinarily requires a minimum of 750 minutes of student-faculty classroom contact, supported by approximately twice that amount of time in work outside the classroom. The distribution of classroom time in terms of number of meetings per week, number of meetings per semester, and length of each meeting, as well as the amount and type of outside work, is an institutional decision. It is also an institutional decision whether, and to what extent, the minimum required time for a credit hour is exceeded.

II. Definitions:

An institution of higher education is one which offers instruction, above the twelfth grade, leading to a degree, and is publicly controlled and operated under statutory provisions, or privately controlled and operated and duly licensed and/or approved by the State of New Jersey.

College means an institution of higher education which has an independent board of trustees and whose programs satisfy the requirements for a degree at the associate, baccalaureate, and/or graduate level and, with the exception of those institutions which have as their major mission the preparation of individuals for religious vocations, offer a range of degree programs. It has a faculty whose duties include some combination of the instruction of students and involvement in scholarship and research. A junior/community college or county is an institution of higher education which offers the associate degree. A senior college offers degrees up to the baccalaureate level and/or offers graduate and professional degrees.

A university is an institution of higher education which provides a wide range of undergraduate and graduate studies, programs in more than one professional field, and operative programs leading to the doctorate or comparable terminal degree in more than one area, clearly identifies graduate studies and programs as distinct elements in its organization, and has a strong emphasis on the creation of new knowledge through research and similar scholarly activities.

An educational program is a group of related courses, organized for the purpose of attaining specified educational objectives.

An academic department is a subdivision of an institution of higher education which is responsible for instruction and/or research in a specified area.

A school is ordinarily a major subdivision of a college or university, may be authorized to offer a degree, and is organized to carry out

instruction and/or research in related academic and/or professional fields.

An academic division is a major administrative unit of a school, college or university, usually consisting of related departments or disciplines.

General education is instruction involving knowledge basic to all learning, as opposed to specialized education needed only by those in a particular occupation or with particular responsibilities.

A junior, community, or county college offers only the associate degree.

A senior college offers degrees up to the baccalaureate level and may offer graduate degrees.

A full-time undergraduate student is one who, in a semester, carries a minimum of twelve (12) credit hours or the equivalent in quarter hours, courses, or other methods of measurement used by the institution.

A part-time undergraduate student is one who, in a semester, carries fewer than twelve (12) credit hours or the equivalent in quarter hours, courses, or other methods of measurement used by the institution.

A full-time faculty member is one who occupies a full, budgeted faculty position and whose primary employment is directly related to teaching, research, and other aspects of the educational programs of the institution.

**VALUES FOR FACTORS AFFECTING
FULL-TIME UNDERGRADUATE ENROLLMENT
PROJECTIONS**

**APPENDIX B
Table 2**

FACTOR	INSTITUTIONS	ACADEMIC YEAR	LOW	BASELINE	HIGH (Goal)
College- Going- Rate	Four-Year Institutions	1979-80	.240	.240	.240
		1985-86	.230	.240	.250
		1990-91	.220	.240	.260
	Two-Year Institutions**	1979-80	.190	.190	.190
		1985-86	.220	.230	.240
		1990-91	.230	.240	.250
Lower Division Retention	All Institutions	1985-86	No Change	No Change	Additional 3% Above '79
		1990-91	No Change	No Change	Additional 3% Above '85
Upper Division Retention	Four-Year Institutions	1985-86	No Change	No Change	Additional 3% Above '79
		1990-91	No Change	No Change	Additional 3% Above '85
Transfers From Community Colleges	Four-Year Institutions	1985-86	No Change	No Change	15% Increase Above '79
		1990-91	No Change	No Change	5% Increase Above '85
	Rutgers - NB NJIT	1985-86	No Change	No Change	12% of Freshmen* by '85
Out-of-State Enrollments	Rutgers-Camden Rutgers-Newark	1990-91	No Change	No Change	15% of Freshmen* by '90
		1985-86	No Change	No Change	3% of Freshmen* by '85
	State Colleges	1990-91	No Change	No Change	5% of Freshmen* by '90
		1985-86	No Change	No Change	5% of Freshmen* by '85
	Independent Colleges	1990-91	No Change	No Change	Same as 1985
		1985-86	No Change	No Change	Additional 5% by '85
	Community Colleges	1990-91	No Change	No Change	Same as 1985
		1985-86	No Change	No Change	No Change

*First Time Full-Time Freshmen

**Adjusted to include non-current high school graduates in freshman class